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WAR FINANCE AND INFLATION[1]

By WILLIAM FELLNER

The avoidance of inflation should be regarded as one of the main objectives of a reasonable war financing policy. The distribution of burdens is highly inequitable under inflation; and it becomes increasingly difficult to prevent the leaking out of scarce resources from the war sector of the economy.

The main conclusion of the present article can be expressed in a few sentences: The tax revenue contemplated in the January Budget Message should be increased significantly, if inflation is to be avoided. Price control and rationing are inadequate substitutes for anti-inflationary fiscal policies. Direct controls can be expected to forestall inflation only if the pressure against which they have to operate is held within rather narrow limits; and only in this event can we hope that the task of post-war reconstruction will not be seriously aggravated by the aftermath of *war finance.*

In the subsequent pages we shall first attempt to sketch some of the main features of American economic development since the outbreak of the war in Europe; and then we shall turn to the problem of financing the future war burden.[2]

Production and Prices—Summer of 1939 to Summer of 1941

Comparisons of "real" magnitudes for different periods are subject to well-known qualifications. While one keeps these in mind, the statement may nevertheless be risked that at the outbreak of the war in

[1] This article results from a study which is being carried on for the Bureau of Business and Economic Research, University of California. The author is indebted to Mr. Lawrence Klein and Mrs. Virginia Galbraith Tauchar for valuable research assistance.

[2] As to the recent literature on problems of American defense financing, *cf.* A. G. Hart, E. D. Allen and collaborators, *Paying for Defense* (Philadelphia, Blakiston, 1941); S. E. Harris, *The Economics of American Defense* (New York, Norton, 1941); H. W. Spiegel, *The Economics of Total War* (New York, Appleton-Century, 1942); E. Stein and J. Backman, *War Economics* (New York, Farrar and Rinehart, 1942); J. P. Wernette, "Financing the Defense Program," *Am. Econ. Rev.*, Vol. XXXI (Dec., 1941), pp. 754-66; *Financing the War* (Philadelphia, Univ. of Pennsylvania, 1942).

Europe both the real output flow of the American economy and its aggregate real capital stock were roughly at their 1929 levels.[3] Yet excess capacities (especially in the durable goods industries)[4] and unemployment of labor obviously were much higher in 1939 than in the late twenties. This made it possible to expand real output quite significantly at a price level that for one and a half years remained more or less stable.

Table I shows the percentage rise in aggregate industrial output and in certain of its constituents from the summer of 1939 to the summer of 1941.[5] As is obvious, the rate of increase was the highest in some of the typical "defense industries." No sharp distinction between defense and nondefense industries can be drawn, of course.

TABLE I—PERCENTAGE RISE IN INDUSTRIAL PRODUCTION AND IN SOME OF ITS CONSTITUENTS[a]

Classification	Aug. 1939–Aug. 1940	Aug. 1940–Aug. 1941	Aug. 1939–Aug. 1941
Industrial production, total	17.0	30.6	52.8
Manufactures, total	15.7	33.6	54.6
Aircraft	142.1	142.0	485.8
Shipbuilding	60.3	140.1	284.9
Locomotives	20.4	146.8	197.1
Iron and steel	43.6	17.1	68.2
Automobiles	26.4	31.9	66.7
Furniture	7.3	33.1	42.7
Textiles and products	1.8	38.7	41.3
Manufactured food products	3.1	16.0	19.7
Lumber	8.6	17.5	27.6

[a] Derived from data published in the *Federal Reserve Bulletin.*

Nevertheless it can be seen from production figures that the rise was not confined to defense industries in the narrower sense. Table I also reflects the circumstance that the rate of increase was much greater in the second of the two 12-month periods than in the first. Steel is a notable exception. As a consequence of the full utilization of existing production facilities and of a scrap shortage, the rate of increase in steel production slowed down in the second year of the war.

The fact that not merely defense production but also consumption

[3] As to real output, this conclusion is reached by deflating money income figures. As to real capital stock, the Kuznets estimates indicate that the capital consumption of the depression was not offset by the net capital formation of the recovery until somewhere in 1937.

[4] While in 1939 industrial production as a whole was at its 1929 level, the output of the durable goods industries was about 17 per cent lower and the output of the other industries, of course, correspondingly higher.

[5] The Federal Reserve Board's index for industrial production includes manufactures and minerals.

has risen substantially can perhaps be better seen from Table II. Department store sales, grocery chain store sales, and rural sales of general merchandise have increased significantly in the course of these two years. Here, too, the rise from the summer of 1940 to the summer of 1941 was much in excess of the rise occurring in the preceding twelve months.

TABLE II—PERCENTAGE RISE IN SALES TO CONSUMERS[a]

Outlets for Sales	Aug. 1939–Aug. 1940	Aug. 1940–Aug. 1941	Aug. 1939–Aug. 1941
Department store	10.1	36.7	50.5
Grocery chain store	11.2	24.4	38.3
Rural sales of general merchandise	11.3	42.9	59.1

[a] Derived from data published in the *Survey of Current Business.*

TABLE III—PERCENTAGE RISE IN THE COST OF LIVING AND IN SOME OF ITS CONSTITUENTS[a]

Expenditures	June 1939–June 1940	June 1940–June 1941	June 1939–June 1941
Cost of living (over-all index)	1.9	4.1	6.0
Food	5.0	7.7	13.1
Clothing	1.4	1.6	3.0
Rent	0.3	1.1	1.4

[a] Derived from data published in the *Survey of Current Business* (Bureau of Labor Statistics Index).

The figures of Table II are value figures and hence they are affected by the rise of retail prices. Comparison of Table II with Table III indicates, however, that the rise in retail sales must have been substantially greater than the increase in retail prices.[6]

The rise in the general level of both wholesale and retail prices was slight in the first of the two 12-month periods under consideration. Table IV shows the percentage increase of wholesale prices for both years and also contains data relating to the major constituents of the wholesale price index. A more detailed breakdown would, of course, show that the rise in the prices of some commodities was not negligible in the first 12-month period. Grains, dairy products, paper and pulp might be mentioned in this connection. But it is a legitimate generaliza-

[6] It should be added that the figures relating to the increase in retail sales values for the period lying between August 1940 and August 1941 are obviously affected by the new excise taxes introduced in the fall of 1941. In October, when the new tax rates had already become effective, the excess of department store sales over the same month of 1940 had declined to 11 per cent. Considering, however, that the October figures are relatively depressed by previous anticipatory buying, the October turnover must be considered high.

tion to say that the marked rise of wholesale prices over the two-year period in question is mainly a consequence of the rise in the second year. It will be seen later that the rise in the second period, in turn, was largely a consequence of the rise occurring since *March 1941*.

TABLE IV—PERCENTAGE RISE IN WHOLESALE PRICES[a]

Commodities	Aug. 1939–Aug. 1940	Aug. 1940–Aug. 1941	Aug. 1939–Aug. 1941
Wholesale prices (over-all index)	3.2	16.7	20.4
Finished products	2.4	13.0	15.7
Semi-manufactures	3.4	16.2	20.1
Raw materials	5.0	25.5	31.7
Farm products	7.5	33.2	43.3

[a] Derived from data published in the *Survey of Current Business*.

The rise in hourly earnings of labor, too, was much higher from the summer of 1940 to the summer of 1941 than in the preceding twelve-month period, although the rise of the second period is not in this case concentrated in the last few months of the period. Table V shows the percentage increase of hourly earnings for manufacturing as a whole; and also the percentage increase in nonagricultural employment as a whole. Moreover, Table V contains data as to the rise in the

TABLE V—PERCENTAGE RISE IN EMPLOYMENT, EARNINGS, AND HOURS[a]

Earnings and Hours	Aug. 1939–Aug. 1940	Aug. 1940–Aug. 1941	Aug. 1939–Aug. 1941
Average hourly earnings, manufacturing industries	5.2	11.7	17.5
Total nonagricultural employment	2.9	10.1	13.4
Aggregate labor hours performed, manufacturing industries[b]	9.1	31.8	43.7

[a] Derived from data published in the *Federal Reserve Bulletin*.
[b] *Cf.* footnote 7, below.

aggregate number of labor hours performed in manufacturing industries.[7] These latter data in conjunction with figures relating to the rise in manufacturing production (see Table I) show that a given rise in output was associated with a much smaller rise in labor hours performed in the first twelve-month period than in the second. From the summer of 1939 to the summer of 1940 manufacturing output rose by about 15 per cent and aggregate labor hours performed only by about 9 per cent. In the subsequent twelve months both indexes rose by slightly over 30 per cent.

[7] These figures are derived from the U. S. Bureau of Labor Statistics data for factory employment, on the one hand, and average hours worked per week, on the other hand.

Production and Prices: Trends after February 1941

It was stated above that the rise in the general price level was slight until early in 1941. This is true of the wholesale price level as well as the cost of living. The Bureau of Labor Statistics wholesale price index rose about 6 per cent from the outbreak of the war to January 1940, then declined about 3 per cent up to August 1940, and has risen more or less consistently since that time. But the rise from the level of August 1940 to the level of February 1941 amounted to roughly 4 per cent only, so that the entire increase for the one and a half year period lying between August 1939 and February 1941 is not more than about 7 per cent.

Table VI—Percentage Rise Over the Preceding Month in Wholesale Prices and Cost of Living[a]

Classification	1941 Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1942 Jan.	Feb.
Wholesale prices	1.1	2.1	2.0	2.6	2.0	1.7	1.7	0.7	0.1	1.2	2.6	0.7
Manufactured products	0.8	1.5	1.9	1.7	1.7	1.6	1.4	1.2	−0.1	0.9	1.9	0.6
Semi-manufactures	2.2	2.0	1.5	1.4	0.3	1.8	0.9	−0.4	−0.2	0.4	1.8	0.3
Raw materials	1.8	2.9	2.8	4.9	3.0	1.7	2.7	−0.3	0.6	2.3	4.1	0.9
Farm products	1.8	3.9	2.7	7.5	4.5	1.9	4.1	−1.1	0.7	4.5	6.4	0.5
Cost of living	0.4	1.0	0.7	1.7	0.7	0.9	1.8	1.2	0.7	0.3	1.3	0.6
Food	0.5	2.2	1.5	3.7	0.8	1.2	2.5	0.8	1.3	0.0	2.7	0.5
Clothing	1.7	0.3	0.4	0.5	1.5	2.0	3.6	1.8	0.9	0.9	0.8	2.6
Rent	0.0	0.3	0.3	0.1	0.3	0.2	0.5	0.7	0.3	0.4	0.2	0.2

[a] Derived from data published in *Survey of Current Business.*

The rise in the cost of living was negligible until March 1941. This index rose about 2 per cent at the outbreak of the war, then declined a trifle and again rose quite slightly. Early in 1941 it stood 2 per cent higher than immediately before the outbreak of the war, and one per cent higher than in the last corresponding pre-war months (*i.e.,* than early in 1939).

Since February 1941 there has been a marked upward trend in both the wholesale and retail price level. Table VI shows the rate of month to month rise for the general level of wholesale prices, for the major constituents of the wholesale price index, for the cost of living and for its constituents after February 1941.

Aggregate industrial production continued to rise at a roughly unchanging rate until June 1941, so that the period March-June 1941 is characterized by a significant rise in aggregate real output as well as in the price level. Yet after June the rise in aggregate industrial production became substantially smaller. As can be seen from Table VII, *the continued rapid expansion of some of the typical defense industries*

TABLE VII—PERCENTAGE RISE OVER THE PRECEDING MONTH IN INDUSTRIAL PRODUCTION AND IN SOME OF ITS CONSTITUENTS[a]

Type of Production	1941 Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1942 Jan.	Feb.
Industrial production, total	2.1	−2.0	6.9	3.2	0.6	0.0	0.6	1.2	1.8	0.6	2.4	1.2
Iron and steel	2.8	−1.6	1.7	0.0	0.5	0.0	3.8	−0.5	0.0	2.6	−2.6	1.0
Aircraft	3.6	6.5	7.1	6.2	7.2	11.6	8.2	7.1	3.9	—[b]	—[b]	—[b]
Locomotives	5.9	9.7	8.0	9.4	9.6	−0.3	4.2	5.0	0.9	—[b]	—[b]	—[b]
Shipbuilding	9.1	5.4	7.9	12.3	9.1	3.9	15.5	13.2	1.7	—[b]	—[b]	—[b]
Automobile bodies, parts and assembly	−0.7	−12.7	22.6	5.9	4.3	−16.1	−5.0	9.0	−2.7	−1.7	3.3	−4.2
Lumber and products	−5.2	3.1	0.0	2.3	4.4	−0.7	−2.9	−0.7	0.0	3.6	4.3	1.4
Textiles and products	2.1	2.7	4.7	−0.6	−0.6	−0.6	−1.9	−0.7	4.0	2.6	3.9	0.6
Rubber products	1.3	1.9	2.5	18.5	−20.3	−15.0	0.8	2.3	—[b]	—[b]	—[b]	—[b]

[a] Derived from data published in the *Federal Reserve Bulletin* (seasonally adjusted).

[b] Not available for separate publication.

after June was accompanied by the cessation of growth and partly by an actual decline in other industries. This obviously is a significant phenomenon. Up to the summer of 1941 the increase in real output extended to practically all fields.

Expansionary Defense Financing

According to our estimates, the supply of money rose by about 13 billion dollars from the summer of 1939 to the summer of 1941.[8] The rate of increase was much larger in the second of the two 12-month periods than in the first. In the second period about 7.5 billion dollars of new money were created. This large increase in the supply of money from 1940 to 1941 was partly a consequence of the fact that the banks bought more than one-half of the newly issued government securities (including the fully guaranteed).[9] This in itself gave rise to about 3.5 billion dollars of new money in the fiscal year ending in June 1941. Furthermore, the banks had expanded their loans to private business by the important amount of 3 billion dollars;[10] and the gold inflow was

[8] We have included demand deposits adjusted; deposits of the U. S. Treasury and of foreign banks in the Federal Reserve banks; and currency outside the Treasury and the banks. The foregoing two types of deposits in the Federal Reserve banks are not usually included in the concept of money, but there is no reason for excluding them since they are drawn upon to make current expenditures.

[9] For the period June 1940 to June 1941, the percentage of new issues going to banks was 51.5 per cent; to insurance companies, 7.3 per cent; to "other investors," 20.4 per cent; to federal agencies and trust funds, 20.5 per cent.

Banks include Federal Reserve banks, member banks, other commercial banks, and mutual savings banks. The holdings of the Federal Reserve banks changed but slightly.

[10] Loans of all banks (millions of dollars): June 30, 1939—$21,318; June 29, 1940—$22,341; June 30, 1941—$25,312. Source: *Federal Reserve Bulletin.*

also associated with the creation of new money. The flow of money spending increased in approximately the same proportion as that in which the stock of money rose. The exchange velocity index of the Federal Reserve Bank of New York declined from 1939 to 1940, and since then has risen slightly, but not beyond its pre-war level. Income velocity seems to have declined slightly from 1939 to 1941, but this decline is so small that, considering the limitations to which the estimates are subject, it seems preferable to say that income velocity has remained approximately constant.[11] The conclusion then would be that money spending has risen in the same proportion as that in which the supply of money has increased. This proportion is roughly one-third if the summer of 1941 is compared with the summer of 1939, and the proportion will not be very different for the calendar year 1941 as compared with the calendar year 1939.

The bulk of the rise in supply of money and in the flow of money spending has occurred in the second, rather than in the first of the two 12-month periods. This second period roughly coincides with the first year of the American defense program. The "defense program," in the technical sense, was started after ten months of war in Europe, during which some amount of monetary and real expansion had already occurred in this country. The fiscal year ending June 1940 which precedes "the first year of the defense program" must really be regarded as the first year of war expansion. The assumption that the war was the prime mover of the American expansion in the course of the fiscal year 1940 can be made plausible with reference to the development of exports,[12] and this assumption becomes even more plausible if account is taken of the fact that the rise in industrial output was at that time already largely concentrated in the typical defense industries.[13] Yet American defense spending was but slightly higher in the fiscal year ending June 1940 than in the fiscal year ending June 1939;[14] and the difference in the government deficit of the two fiscal years was negligible.[15] Consequently, the fiscal year ending June 1941 may be con-

[11] Income velocity for the year 1939 was 1.97; for 1940, 1.88; and for 1941, 1.89. The method used was to divide income payments by the stock of money. All income figures are estimates of the Department of Commerce. Velocity figures based on income produced, rather than income payments, would be almost precisely the same.

[12] For fiscal year ending June 1941, total exports were $3,838,927; exports to Europe were $1,620,482. For the fiscal year ending June 1939, total exports were $2,919,732; exports to Europe were $1,228,429. Total exports were 31.1 per cent higher in fiscal 1940 than in fiscal 1939. Exports to Europe were 32.0 per cent higher. Source: *Survey of Current Business*.

[13] See Table I.

[14] 1.7 billion dollars as against 1.2 billions.

[15] The excess expenditure of the federal government was 3.5 billion dollars in fiscal 1939 and 3.6 billions in fiscal 1940. If this deficit is corrected in the manner to be described later in the text, the figures are 2.1 billions for 1939 and 2.4 billions for 1940.

sidered the first year of the American defense program not merely in the formalistic sense but also in the sense that the specific problems of defense financing first arose in this fiscal year.

The methods of financing the defense program were distinctly expansionary from the outset.[16] The rise in tax revenues and the decline in expenditures other than those on defense[17] was insufficient to provide the funds necessary to finance the rapidly rising defense outlays. Moreover, the gap was too large to be closed by borrowing from the public at that time. These circumstances reflect themselves in the increased government deficit of the fiscal year 1941 and in the fact that the government relied heavily on borrowing from the banks. From the fiscal year 1940 to the fiscal year 1941, the national defense expenditures of the federal government rose from 1.7 billion dollars to 6.1 billions and this was associated with a rise of the crude deficit from *3.6 billions* to *5.1 billions*. These deficit figures should, however, be corrected so as to take account of the receipts and expenditures of the government agencies technically not included in the concept of the federal government. If this correction is undertaken the net figure of *4.7 billion dollars* is obtained for fiscal 1941, *which is almost precisely double the corresponding figure for the previous fiscal year.* This figure expresses the excess expenditure of an aggregate consisting of the "government" plus its agencies.[18] The government, in the foregoing broader sense, has obtained almost two-thirds of its aggregate borrowings from banks.[19]

Inflation Potentialities before and after December 7, 1941

The danger of inflation was imminent in the last stage prior to American belligerency. It was obvious before the attack on Pearl Harbor that the defense program would lead to inflationary phenomena at an increasing rate unless monetary and fiscal policies were changed. Defense spending for the present fiscal year was then estimated at 18 to 19 billion dollars and aggregate federal spending at 24-25 billion dol-

[16] By "expansionary" we mean "leading to an increase in MV." The term is used in this sense by Hart and Allen, *op. cit.*

[17] Mainly unemployment relief.

[18] The "government" plus its agencies, taken as one unit, borrowed 5.4 billion dollars in the course of the fiscal year 1941, the difference between this latter figure and the aggregate excess expenditure (4.7 billions) being explained by the fact that the General Fund Balance of the "government" and of the agencies rose by .7 billion.

[19] As was pointed out in footnote 9 on p. 240, the banks bought 51 per cent of all newly issued government securities (including the fully guaranteed). But they bought almost two-thirds of those newly issued securities which were not bought by federal agencies. If we regard the federal government and its agencies as one unit, then this latter figure expresses the share of the banks.

lars, while tax revenues promised to yield around 12 billions.[20] Consequently, the crude deficit of the federal government was expected to reach 12 to 13 billion dollars. Moreover, the outlays of the government agencies, mainly those of the R.F.C. and of its subsidiaries, were rising rapidly. These agencies play an important part in the financing of defense investment. It was obvious that the corrected deficit of the government in the broader sense would reach in the present fiscal year a multiple of the 4.7 billions of fiscal 1941. Three times this figure did not seem a high estimate at that time. It is true that voluntary lending was also on the increase and, consequently, it was not clear whether borrowing from the banks would have risen very substantially. In the first six months of the present fiscal year, over 4 billion dollars of Defense Savings Bonds and Tax Anticipation Notes have been sold to the public. With these two types of borrowing at an annual rate of 8 to 10 billion dollars, borrowing from the banks would not necessarily have amounted to much more than in fiscal 1941. In spite of this it was clear that the inflation danger had increased. Up to the summer of 1941 practically all industries had expanded. Since that time the rise in defense production was associated with a decline in civilian output. Hence, up to the summer of 1941, the increased flow of purchasing power was directed at an increased flow of real civilian output; since that time, the rising flow of purchasing power has been directed at a shrinking flow of civilian commodities. Consequently, the same increase in the flow of money spending would inevitably have been associated with an increased inflationary pressure. It was safe to conclude already in November 1941 that the danger of inflation would rise, unless tax revenues were increased beyond the then contemplated level.[21]

The inflation danger was aggravated by a further circumstance. The stock of idle deposits obviously rose by a substantial amount during the first two years of the war. This follows from the fact that neither exchange velocity nor income velocity had risen, while the stock of money grew by a little over one-third. Since a significant change in the velocity of the *active* part of the stock of money is unlikely to have occurred, it must be concluded that the new money was divided into active money and idle money in approximately the same proportion as that in which the 1939 stock had consisted of these two constituents.[22] Or, to express the same thing in other words: both the active part and the idle part of the stock of money must have risen by approximately one-

[20] On the grounds of the new tax bill, passed in the fall of 1941.

[21] Bank *loans* might also have increased somewhat more than in the preceding fiscal year. Yet on the other hand the gold inflow has slowed down substantially.

[22] It seems quite likely that the velocity of the active part of the money stock has increased slightly. In this event idle balances must have risen slightly more than proportionately.

third if a rise of the entire money stock by one-third was unaccompanied by a change in the average velocity of the dollar. We know that the stock of idle money was already substantial in 1939. The income velocity of the dollar, for example, was about one-third lower at the outbreak of the war in Europe than in the late twenties.[23] This reflects the high level of idle balances at the time of the outbreak of the war in Europe. The failure of velocity figures to rise during the monetary expansion since 1939 indicates a further substantial rise in the stock of hoards. A general desire to get rid of idle balances would have a significant inflationary effect. It might be pointed out that a rise of the income velocity of the present stock of money to the velocity level of the 1920's would increase the yearly rate of money income by roughly 60 billion dollars.

It is obvious that the gravity of the problem increased significantly after war was declared. This is true even with respect to the present fiscal year. Defense spending for the current fiscal year is now estimated at roughly 28 billion dollars (instead of 18 billions) and aggregate federal expenditures at about 34 billions (instead of 24 billions). Tax revenues for the present fiscal year will apparently not exceed the previously estimated 12 billions and, consequently, the estimated deficit has risen by about 10 billion dollars (to almost 22 billions). This means a higher rate of monetary expansion and also a higher rate of output-curtailment in the civilian sector.

For fiscal 1943 the war expenditures of the federal government and its agencies are estimated at 70 billion dollars and aggregate federal spending at 70 to 75 billions. If the revenue of the federal government (including the planned increase in Social Security contributions) will be raised merely to about 27 billions, as is now contemplated, an enormous rise of the monetary pressure seems inevitable. A large portion of the roughly 45 billion dollars of borrowing would undoubtedly have to be of an inflationary character.

The Ideal Degree of Taxation

It is suggested in these pages that the rate of taxation be increased substantially beyond the now contemplated level.

The notion that rationing and price control might be used *instead* of appropriate fiscal policies is an unfortunate one for several reasons. First, it should be pointed out that, with the monetary pressure rising rapidly, the enforcement of rationing and price control would require a very substantial and costly effort on the part of the authorities. In

[23] See James W. Angell, *Investment and Business Cycles* (New York, McGraw-Hill, 1941). See mainly, chap. 9, and Appendix II.

fact, if the pressure grows significantly, it is unlikely that the effort would be successful. Second, there is general agreement in democracies as to the desirability of keeping policing activities down to that minimum which is indispensable for wartime efficiency. This implies that it is preferable to reach a given objective by methods which do not require policing rather than by methods which do. Narrowing the flow of money income is superior in this respect to price control and rationing. Third, it should be emphasized that it is undesirable to create conditions which automatically give rise to a cumulative upward movement of prices as soon as measures of control are relaxed. In order to realize this, it is important to draw a line between the immediate post-war "short run" and the subsequent period. In certain stages of post-war readjustment it will be necessary to maintain the flow of money income by measures of public policy. Expansionary effects will then be welcome. But in the immediate post-war short run, there presumably will be a strong tendency for re-stocking. Even if it should prove to be true that very severe regimentation enforced by efficient policing agencies could prevent an inflationary spiral for the time being, a failure to keep money income down would strongly accentuate the inflationary phenomena of the post-war short run and would unnecessarily deepen the subsequent depression.

As we shall see later, this does not mean that price control and rationing should be omitted. We merely believe that *measures directed at the aggregate income stream should provide the basic structure of a reasonable anti-inflation policy.*

By measures directed at the aggregate income stream, we mean taxation and borrowing from the public. Neither of these two measures can be directed exclusively at the current income stream, since the public may reduce its hoards or increase its borrowings from the banks when buying government securities or when paying taxes. This is a qualification which must be kept in mind and to which we shall return presently. The necessity of combining taxation with price control and rationing is largely a consequence of this potentiality. For the moment, however, we may view taxation as well as borrowing from the public as measures directed mainly at the current income stream. We may also regard compulsory loans as a form of taxation which will be refunded. Let us therefore at first distinguish taxation and compulsory loans, on the one hand, from voluntary loans subscribed to by the public, on the other; and let us view these two types of war finance as being directed mainly at the current income stream.

At the present income level,[24] it would presumably be possible to

[24] By the "present yearly rate of income," we mean a rate of about 100 to 110 billion dollars. The present level of taxation means the level obtaining in fiscal 1942.

finance a *moderately heavy* war burden largely by voluntary loans. But it will be argued that the share of voluntary lending in the non-inflationary financing of a *very heavy* war burden would have to become small. The point here is not merely that a very heavy burden is greater than a moderately heavy burden. More important is the fact that heavy taxation is bound to reduce those funds which otherwise would be lent to the government.

At the present income level it would be unreasonable to expect more than 15 to 20 billion dollars of net voluntary savings; or, if some degree of capital consumption is imposed upon the economy, more than 20 to 25 billions of gross savings.[25] More could be expected only on the assumption that the government enforces all-around price control and rationing against an increasing monetary pressure and thereby successfully imposes upon the public a higher rate of saving. A policy aimed at avoiding the monetary pressure in question should, of course, not be based on this assumption. Now, at the present level of income and of taxation 35 billion dollars (12 billions revenue at present rates and the rest voluntary lending "out of current gross income") would be quite insufficient to provide the funds required for the armament program. This would be 30 to 35 per cent of national income instead of the required 60 per cent.[26] If, however, the tax revenue must be increased substantially, then the amount to be raised by voluntary loans out of savings is bound to shrink. The degree of taxation necessary to bridge most of the gap corresponding to 25 to 30 per cent of national income would eliminate individual saving.[27]

The emphasis of a consistent anti-inflation program should be placed on taxation. An efficient tax policy should be supplemented by security sales, but once the degree of taxation becomes sufficient we cannot expect voluntary lending to amount to a high share of aggregate expenditure. Or rather voluntary lending could in these circumstances be substantial only if it is undertaken by means of depleting idle cash balances, in which event it fails of its purpose as a method of non-inflationary financing.

The taxation program should take account of two main points of view. The distribution of burdens is one of these and the specific character of the commodity shortages the other. The first point of view calls clearly for income taxation since income taxes can be made progressive.

[25] Various estimates lead to the conclusion that the annual depreciation of the present stock of durable producers' goods and buildings slightly exceeds 10 billion dollars.

[26] Under the most recent scheme, total expenditures of the Treasury would correspond to about 60 per cent of the national income.

[27] Moreover, in the absence of direct consumers' controls, the saving ratio would tend to decline even at present tax rates, since consumers' real income, in the here relevant sense, will be made to decline.

The second point of view calls for supplementing income taxation by excise taxes on specific commodities. The specific commodity shortages will undoubtedly be created by direct government allocation, that is, essentially by commandeering. As it becomes necessary to shift more resources from civilian production into the armament industries, the government will continue to allocate the resources in question to the enterprises producing for defense. The shortage in a great number of civilian commodities will be and already is a direct consequence of these measures falling in the category of commandeering. But a reasonable taxation program should take account of the specific character of these shortages since otherwise the demand would exceed the supply of certain commodities at all prices except tremendously high ones. In other words, at practically all levels of income taxation there will be a high upward pressure on the prices of certain highly scarce commodities. It is probable that these prices will rise, even though the government does attempt to keep them down by direct control and policing. For durable commodities of high scarcity, the second-hand markets will become the really important ones, and it is very unlikely that prices on these markets could be kept at present levels by direct control. It would be desirable to utilize this rise in prices for the purposes of the armament program by the means of excise taxes and thereby to tax away amounts which otherwise would go into windfall profits. Price fixing will be more effective if it occurs at higher levels, at which the excess of demand over supply is smaller. It is impossible to estimate with any degree of accuracy the yield of excise taxes on the assumption that additional excise taxation is applied only to tax away otherwise inevitable price increments in fields of high scarcity. At the present level of taxation the aggregate yield of excise taxes may be estimated at somewhat less than 3 billion dollars[28] and the assumption would seem reasonable that this yield could be approximately doubled at the present income level. It would, of course, be possible to raise the yield of excise taxes much beyond this level in case taxes were imposed upon necessities for which the demand is notoriously inelastic. But from the social point of view, this is no desirable method of financing a war burden. Excise taxation requires specific justification owing to its nonprogressive character. It can be justified with respect to luxuries and more or less "harmful" commodities, and it can be justified in those cases dis-

[28] The "present level" does not yet include the new proposals of the Treasury submitted in March 1942. The yield of excises in the fiscal year 1941 amounted to 2.4 billion dollars. In the October 1941 issue of the *Survey of Current Business,* the yield of the additional excise taxes which became effective October 1, 1941, is estimated at about .5 billion. For an entire year the addition would, of course, be higher than for the period October 1-June 30. Yet the substantial curtailment of the consumption of numerous taxed items will be a factor tending to reduce yields. The proposals submitted in March 1942 are expected to increase the total yield by 1.3 billion dollars.

cussed above where the tax may be expected to have mainly the effect of utilizing for the Treasury an inevitable rise of prices. The excise taxes imposed on highly scarce commodities would, of course, not yield much if merely newly produced commodities were taxed. Extension of excise taxation to used markets might raise the yield, but it is obvious that if high excise taxes are applied only in the cases discussed here, but a small share of the aggregate war expenditures could be raised from this source.

It follows from these considerations that the bulk of the burden should be raised by income taxation. It is obvious from the outset that personal income taxes can be made to yield much more than corporate income taxes and it will be seen presently that it would not be advisable to increase even the *rate* of corporate income taxation to the level of personal income taxation. In case the significance of voluntary lending "out of current income" is substantially reduced—and this is bound to happen if taxation becomes very heavy—it would be desirable to raise an amount corresponding to about 35 per cent of the national income by personal income taxation.

We have no means of calculating precisely the burden falling upon the single income brackets. The following might, however, be a rough way of obtaining an idea of the general orders of magnitude involved in such taxation. The National Resources Committee has estimated the distribution of income for the period July 1935 through June 1936; and also gave estimates, based on specific assumptions, of income distribution for higher levels of aggregate income.[29] To raise 35 per cent of personal incomes, on the basis of the distribution there estimated for an 80-billion dollar income level,[30] would require roughly the following. Assuming that families *of average size* with incomes of less than $1,000 should be exempt and that the rate at which $1,500 incomes are taxed should not exceed 15 per cent, the effective rate would have to amount, for consumer units with the average number of dependents, to about 30 per cent on incomes of around $3,000, to about 40 per cent on incomes of around $4,000, to about 50 per cent on incomes around $6,000, to about 60 per cent on incomes around $10,000. The *average* rate of taxation on incomes of more than $20,000 would have to come close to 90 per cent.[31] By saying that these would have to be the effective rates,

[29] *Consumer Incomes in the United States*, National Resources Committee, 1938. *Cf.* also *Consumer Expenditures in the United States*, N.R.C., 1939, secs. 3-5.

[30] We are using those estimates which imply for 80 billion dollars the same proportionate distribution as has existed for 60 billions.

[31] Using the National Resources Committee's estimates for an 80-billion dollar income level, it is easy to convince oneself of the fact that a scale of the above character would raise about 35 per cent of the Committee's "total." (*Cf. Consumer Expenditures*, 1939, p. 190, under heading "same proportionate distribution as in 1935-36.") To reproduce the calculation would require more space than is at our disposal.

we mean that the tax rates would have to be such as to make the actual tax payments correspond to the percentages indicated above. The exemption of low incomes would obviously require that the nonexempt portions of incomes be taxed at correspondingly higher rates.

There is a presumption on the one hand, that a tax structure, yielding about 35 per cent of an 80-billion dollar income on the basis of the National Resources Committee's estimates, would yield a *higher portion* of a 100- to 110-billion dollar income (probably close to 40 per cent).[32] This is true because the recent increase in national income was undoubtedly associated with a rise in the average income level so that at present a larger share of aggregate income is earned by relatively higher income groups. Understatements of income and evasions of various kinds make it necessary, on the other hand, to undertake a rather substantial *downward correction*. In fact, the National Resources Committee used, among other sources, the income tax returns in estimating the income flowing to the higher brackets and has raised the resulting share of these brackets quite substantially for nonreporting and understatement. Aside from the question of evasions, it should be remembered that certain constituents of aggregate income are not subject to individual income taxation. The war burden, when related to income, is usually expressed in percentages of national income produced. Some constitutents of income produced (such as, for example, corporate savings and non-cash income) do not enter into the individual income tax base. Hart and Allen have estimated[33] that, at a 90-billion dollar income level, these reducing factors[34] might curtail the income base by roughly 15 per cent of total income. Moreover, increased corporate taxation and, conceivably, the limitation of dividend payments would somewhat diminish the share of the higher brackets in aggregate individual income payments. It might, therefore, be assumed that a tax structure of roughly the character sketched above would be capable of yielding close to 35 per cent of the increased national income.[35]

[32] A scale yielding 35 per cent of 80 billion dollars would yield 40 per cent of 104 billions on the assumption that about 60 per cent of the rise goes to the Treasury. The scale of the text would probably tax away around 60 per cent of the increase.

[33] *Cf. op. cit.*, p. 147.

[34] Reducing factors other than personal exemptions; and other than the earned income credit, which presumably will be dropped.

[35] This is another way of saying that, *from the point of view of this percentage figure*, the upward correction for increased income might, roughly speaking, cancel out with the downward corrections for evasions and nontaxables. On the assumption of footnote 32, above, the downward correction would outweigh the upward correction from the point of view of the percentage figure if the Hart-Allen estimate regarding nontaxables and evasions is correct and if the average nontaxable and concealed income belongs in a bracket for which the marginal rate of our scale is about 70 per cent. On these assumptions, which seem reasonable, the 35 per cent would decline to 30 per cent. Yet if, in the future, money income would be rising at the rate of increase of real output, this percentage figure

The ultimate (long-run) distribution of burdens could be made even more progressive by applying some version of the Keynes plan to the lower income brackets. The use in this connection of the administrative structure of the Social Security system has repeatedly been suggested.

Considering what has been said above about excise taxes, it is likely that this kind of taxation could be made to yield roughly 5 per cent of total income without exceeding the limits appearing as "justified" on previously discussed criteria. Furthermore, corporate income taxes plus borrowing from current corporate earnings could probably be made to contribute 10 to 12 per cent of national income;[36] and such borrowing as is offset by capital consumption in the civilian sector of the economy, to contribute an amount corresponding to another 5 per cent. Hence the aggregate revenue of the Treasury plus borrowing out of current gross income could reach a level corresponding to about 55 per cent of income.[37] Taking account of the fact that war spending and the other expenditures of the Treasury will require 60 per cent, a residual amounting to about 5 per cent of income would have to be borrowed from banks.[38] Hence, the supply of money would be rising at an

would also be rising somewhat. A comparison of figures derived by the crude method sketched in the text with Treasury estimates as to the yield of specific tax scales would seem to indicate that the method does provide some information regarding rough orders of magnitude.

[36] Corporate profits, net of intercorporate dividends, amounted to roughly 10 to 11 per cent of national income in the recent past. (See Hart-Allen, *op. cit.*, chap. 12) There is a strong presumption that they correspond to a higher proportion at present. Assuming this proportion to be 14 to 15 per cent and assuming legislation which would limit dividend payments, a fund amounting to 10 to 12 per cent might become available for taxation plus borrowing. If, say, the average effective tax rate would be raised to 60 per cent of the corporate earnings, these taxes would yield about 9 per cent national income and borrowing conceivably about 3 per cent.

For the fiscal year 1942 the yield of corporate income taxes, including the excess profits tax, may be estimated at roughly 4 billion dollars. This figure is derived from 1941 yields, on the one hand, and estimates relating to the additional yield of recently increased tax rates, on the other. (See *Survey of Current Business*, October, 1941.)

[37] Items of revenue, other than mentioned above, are of negligible order of magnitude.

[38] It would be important to eliminate excess reserves by raising reserve requirements. At present the government is forced to rely heavily on borrowing from the banks and it could rely *to a small extent* on this type of borrowing even if a scheme were adopted which would successfully avoid "inflationary phenomena." Yet, on purely rational grounds, it would seem preferable to sell government securities to the *Federal Reserve banks*, rather than to commercial banks. The latter procedure, as opposed to the former, presupposes the existence of excess reserves and, hence, leaves a door open for *further* monetary expansion *via* an increase in loans to private business and to individuals. It should not be overlooked, however, that the spending of funds borrowed from the Federal Reserve banks leads to the formation of further excess reserves, unless reserve requirements are continuously adjusted (or so changed as to take care of this in advance). Furthermore, irrational factors should also not be overlooked. Direct borrowing from the Federal Reserve banks would open a very easy channel for inflationary borrowing; and it is conceivable that the incentive to raise funds by taxation, rather than borrowing, would thereby be weakened.

annual rate of about 10 per cent.[39] This would produce no "inflationary pressure." Aggregate real output must also be expected to rise slowly.[40]

In connection with corporate income taxes we should like to point to the following. If corporate income taxes are compared with personal income taxes, then, for obvious reasons, it is found that relatively lower corporate income tax rates for the various income brackets will yield a relatively higher portion of aggregate corporate income. This is a consequence of the more top-heavy distribution of corporate incomes. Corporate income taxes, including the excess profits tax, should of course be made to yield a considerably higher share of aggregate corporate income, than the 35 per cent suggested for personal incomes. Yet it would hardly be reasonable to raise corporate income tax rates for the various corporate income brackets to a level as high as that which would have to apply to personal incomes of the same magnitude. The risk that production becomes inefficient if industrial efficiency remains entirely unrewarded is substantially greater than the risk that individuals withhold their services on account of being taxed too heavily. Moreover, the resistance against taxing away practically all corporate incomes would be even greater than resistance to extraordinarily heavy individual taxation. An attempt to break this resistance fully would not be worth while, since the difference between the yield of the present corporate income tax structure and that of a confiscatory tax would not amount to more than about 7 to 8 per cent of national income. Last but not least, it should be realized that corporate surpluses can be made into a more reliable source of lending than personal incomes. In fact, corporate savings would become the only source of voluntary lending "out of net income," since no individual savings could be expected under such a scheme. Hence, while it is desirable to raise corporate income tax rates beyond their 1941 level, it would not be reasonable to raise them to the levels suggested for personal incomes of identical size. Instead, dividend payments could be limited; and the investment of corporate surpluses in government securities could be stimulated by making tax rates dependent upon how the undistributed surpluses are used.

It should be stressed that, while increased reliance on excise taxes, rather than on income taxes, would diminish progressiveness, financing

[39] Income velocity is in the rough order of 2. Consequently, 5 per cent of income corresponds to roughly 10 per cent of the stock of money.

[40] Yet it should be borne in mind that the potential rise in *industrial* production definitely overstates the potential rise in *aggregate* real output. As to the slow rise of industrial production in recent months, see Table VII above. It should not be expected that in the future course of the war the average annual rate of increase in aggregate real output will exceed 5 per cent by any substantial margin.

by excise taxes is much less undesirable than inflationary financing on the scale now contemplated. Excises and sales taxation share lack of progressiveness with inflation. But excise taxes and sales taxes in themselves do not tend to disorganize the currency and thereby to reduce economic efficiency. Furthermore, certain commodities could be exempted from sales taxation, while they could not be exempted from a cumulative price rise. We do not mean to deny that, in so far as rationing and price control are completely effective, *controlled* inflation may, for the duration of the war, distribute the consumption burden more equitably than do sales taxes. Yet direct controls, such as rationing and price control, are unlikely to prevent a considerable rise in the price level if the monetary pressure becomes very high and the postwar difficulties also increase substantially in case the temporarily sterilized purchasing power of the war period becomes excessive. *The substitution of increased excise taxes or of a general sales tax for some portion of the income taxes suggested above would be distinctly less harmful than inflationary borrowing on the now contemplated scale.*

A severe taxing policy would have to be combined with certain measures of price control and rationing.[41] This is true mainly because no degree of taxation would reliably prevent the wealthier groups of the population from maintaining their consumption by depleting their idle balances. This is another way of saying that taxes may be paid out of previously accumulated hoards and that loans, too, may be made from these sources rather than "out of current income." The curtailment of consumption for which we are heading is obviously very significant. All calculations point to the necessity of cutting per capita real consumption to deepest depression levels. Considering the absence of unemployment in war periods and also the growth of population during the last decade, this may imply standards considerably lower than those of 1932 for the middle and upper brackets. The resistance against such a substantial reduction of the standard of living will be strong. If free competition among consumers were maintained and taxes were raised to the level considered above, dishoarding would undoubtedly become a means of partly maintaining consumption standards. This is the main reason why income taxation in itself does not necessarily result in an equitable distribution of burdens[42] and also does not, in itself, prevent

[41] We mean here price control and rationing of consumers' goods. The allocation of resources to armament industries, considered above, obviously implies rationing of resources.

[42] The other reason is that, in fields of especially high scarcity, prices will tend to rise at practically all levels of income taxation. It was suggested above that this problem be handled by the means of excise taxes. It is desirable to combine excise taxation with price control and rationing rather than to rely entirely on excise taxes. As was pointed out in the text, the justification of excise taxes in these cases is that direct controls alone would presumably not prevent a rise in prices effectively. By means of excises, the inevitable rise could be utilized for the purposes of the Treasury.

the leaking out of scarce resources from the war sector of the economy into the civilian sector. Price control and rationing are insufficient substitutes for a reasonable taxation policy; but price control and the rationing of scarce essentials are necessary to supplement an equitable and efficient policy of war finance.

It should be added that the deduction of income taxes at the source, wherever the "source" is distinct from the income recipient, would greatly facilitate the achievement of these objectives. This method would have the advantage of substantially reducing the time lag between legislating and collecting. Many persons would thereby be induced to adjust their budgets to changed taxes simultaneously. Deduction at the source may also reduce administrative expenses, although certain administrative difficulties should not be overlooked. The main difficulty would seem to be that of handling the problem of residuals which cannot be settled before the tax year is over. The *final* yearly tax of an individual cannot be calculated before his yearly income is known, since under a progressive income tax the yearly income is one of the determinants of the rate which should have been applied.

Conclusion

The "ideal" tax policy discussed in the foregoing pages would enable the Treasury to refrain from inflationary borrowing. In reality we must take it for granted that some portion of the war fund will be raised by inflationary methods, although a serious effort will no doubt be made to sterilize the additional money stock in the hands of the consumer by the means of direct controls. But if these controls are to be reasonably effective and if the problem of post-war readjustment is not to be aggravated considerably, the ideal degree of taxation should be approximated much more closely than is now planned.

According to the Budget Message submitted to Congress on January 7, 1942, the aggregate revenue of the fiscal year ending June 1943, would amount to about 26 or 27 billion dollars.[43] This figure includes about 2 billion dollars expected from increased Social Security contributions. The detailed tax proposals of the Treasury were submitted to Congress early in March. Total expenditures of the Treasury for fiscal 1943 will exceed 70 billion dollars and consequently the deficit reach a level of about 45 billion dollars. Taking account of the increased tax burden but disregarding for a moment price control and rationing, it may be assumed that not more than about 20 billion dollars of the total borrowing would tend to come out of current gross savings. The rest would tend to become inflationary borrowing. The

[43] Individual income taxes would apparently yield about 8 billion dollars and corporate income taxes, including the excess profits tax, about 9 to 10 billions.

supply of money now being in the order of 50 billion dollars, there would be a tendency for inflation at an annual rate of about 50 per cent.[44] Price control and rationing would have to obviate this tendency and thereby to enforce a higher rate of saving. But it does not seem possible to work against a pressure of this magnitude successfully. Taxation should be increased substantially beyond the now contemplated level before it is too late.

University of California

[44] The tendency may even be in excess of this, considering that the supply of consumers' goods will be declining simultaneously.

THE FUTURE OF FROZEN FOREIGN FUNDS

By JUDD POLK

Over 7 billion dollars in foreign-owned assets are now subject to regulation by the United States Treasury Department. (See Table on p. 266.) The presence of extensive exchange controls in a country long distinguished as the foremost champion of free exchange raises questions of the most far-reaching significance for the future course of international finance. It will be the concern of this paper to examine the circumstances under which the American controls operate with a view to determining what conditions may be necessary or desirable before the United States can safely reopen its money markets to foreigners.

The immediate objective of any exchange control is to bring foreign transactions under the scrutiny of a governmental agency in order that the particular purposes of the government may be enforced. While these purposes differ widely among the various countries,[1] they ordinarily are concerned with (1) the rationing of foreign exchange rendered scarce by continued strains, arising from the balance of payments, on cash resources,[2] and/or (2) the supervision of imports with a view to influencing the terms of trade or in support of internal economic policies of the government. In general it may be said that government intervention in the foreign exchange markets has been provoked in most cases either as a necessary feature of governmental regulation of trade, or as a sort of temporary receivership for deranged national accounts, where the alternatives—uncontrolled currency depreciations or formal devaluations—were thought to be more onerous methods of securing the needed correction in the balance of payments.

I. The United States Version of Exchange Control

The United States had two grounds for opposing the world-wide trend toward exchange control, which in the years 1931-39 put every important exchange market save our own on a controlled basis.[3] The

[1] Professor Ellis distinguishes functionally seven types of exchange control, ranging from the prevention of capital export to the bolstering of totalitarian economic and political control. (H. S. Ellis, "Exchange Control in Germany," *Quart. Jour. of Econ.*, Aug., 1940, 159-68.) United States' wartime controls are comparable with the latter class, with the important distinction that they are *wartime* (*i.e.*, temporary) controls.

[2] Rationing exchange by some means other than currency depreciation is here meant.

[3] The British and French markets were not strictly controlled until the war made it necessary. However, the development of British bilateralism was sufficiently rapid throughout the thirties to prevent the classification of sterling as strictly free. See H. J. Tasca, *World Trading Systems* (Paris, 1939), pp. 141-57. The French market was subject to frequent—though perhaps not sufficiently frequent—rate revisions. See P. Einzig, *World Finance, 1939-1940* (New York, 1940).

first was a matter of economic faith—that increased governmental interference with international finance would impose an incubus on international trade.[4] The many facets of this faith are hard to define, but perhaps the Hull program may be considered an application of it in modern circumstances. It does not insist that exchange markets shall be absolutely free of all government regulation. Rather it contemplates that, though regulation may be undertaken in the interests of protecting international currency relations against speculative derangement and "downward spirals" initiated by depression, such regulation shall none the less be confined within limits consistent with the conception of exchange markets as mechanisms facilitating the adjustment of the international balance of payments.[5]

Whether this faith suited the circumstances of other countries or not, it was clearly more appropriate to our own international economic position than acceptance of the trend toward exchange controls would have been, and this was the United States second ground for opposing the exchange control. Throughout the difficult thirties the United States never experienced any really awkward shortage of exchange. A chronically active balance of trade (4 billion dollars, 1935-40), coupled with a torrential flow of both long- and short-term capital to this country (7.4 billion dollars, 1935-40),[6] produced not an exchange shortage but an *embarras des richesses*. The manifestation of these circumstances was the unprecedented 12 billion-dollar influx of gold in these years.[7] But even in the event of an exchange shortage, our relatively small ratio of foreign to domestic trade would have kept the problem less than crucial in our national economic policy. As it was, we were more concerned with the fact that our credit balance in commercial and capital transactions with the rest of the world was frozen by the controls adopted by countries in circumstances precisely the reverse of our own.

[4] However, W. Diebold (*New Directions in Our Trade Policy*, New York, 1941, chap. 2) finds that available evidence on the effect of the Hull anti-control program on trade does not support the proposition that a removal of controls stimulates imports. But this may have been merely the failure of the import-stimulating aspect of the policy to overcome the effects of the devaluation of the dollar as a stimulus to exports. *Cf.* Imre de Vegh, "Imports and Income in the United States and Canada," *Rev. of Econ. Stat.*, Aug., 1941, p. 137. De Vegh found that during the period of pronounced increase in exchange controls, the League of Nations figures show a drop in the marginal import ratio (*i.e.*, the slope of the regression of world imports on world industrial production) from .95 in the period 1925-29 to .49 in the period 1932-38. (*Ibid.*, pp. 138-39.) Ellis also believes that exchange controls reduce the volume of trade and discusses the evidence. (*Op. cit.*, pp. 184-91.)

[5] *Cf.* Tasca, *op. cit.*, pp. 158-60; J. Donaldson, *The Dollar* (New York, 1937), pp. 193 *ff*.

[6] This figure was derived from *Federal Reserve Bulletin* figures on capital movements and earmarked gold. The dates are inclusive.

[7] *Ibid.*

Despite the opposition of the United States to the trend,[8] foreign exchange markets outside of this country had become alarmingly "unfree" by the summer of 1939. The imminence of war gave added impetus to the world-wide flight to the dollar. Repatriation of American foreign investments (804 million dollars, 1935-40),[9] the United States Treasury's gold purchases,[10] the transfer of foreign-owned funds to the uncontrolled American market in the interest of liquidity and security —all these factors in the general movement were intensified by the threat of war, and later by the war itself. This one-way movement of international funds, which foreign controls originally encouraged, came to be in itself a major cause for the continuation and extension of such controls, and developed into the main problem of international finance in the pre-war period. No solution was in sight when the war itself, bringing rigid new controls in its wake, indefinitely postponed the search. Before the war brought us a completely different order of financial concerns, the main problem for the United States was how to foster international financial institutions which would dispense with the competing, arbitrary, and discriminatory controls imposed by various nations for various purposes, without merely returning to the magnificent disorder which originally prompted those controls. It is to this problem that the United States will have to return after the war.

However, when the United States returns to the problems of peace finance, it will do so not as the world's leading advocate of "free finance," but as the world's most powerful practitioner of exchange control. The present controls were adopted in response to a dilemma occasioned by Germany's military seizures. In April, 1940, when the first controls were imposed, there was no problem of capital flight or exchange shortage to be met. The United States had simply to choose between sacrificing its free exchange policy and allowing Germany, less reluctant in controls, to take over the American holdings of invaded countries. It chose the former.

[8] To a large extent the opposition of the United States was merely verbal. We did not liberalize our trade policy significantly. The Hull program apparently favored exports more than imports. (Diebold, *op. cit.*, pp. 9, 22.) The devaluation of the dollar and the high tariff policy played some part in driving other nations to adopt exchange controls. *Cf.* M. A. Gordon, *Barriers to World Trade* (New York, 1941), p. 30. On the other hand, the United States did continue to buy gold despite the proportions of its flow here, and that was a definite step supporting a "free finance" policy, whether that was the actual motive of our gold purchases or not.

[9] *Federal Reserve Bulletin* figures on international capital movements.

[10] The bulk of the gold sales were, of course, merely the means of effectuating the flow of capital to the United States. None the less, for new gold the United States was the only practical buyer in the world. Similarly, large amounts of gold ordinarily held in reserve abroad were shipped here. Accordingly, it is proper to include transfers of gold to this country as an independent manifestation of the "flight to the dollar," and the existence of a steady gold market here as one of the reasons for that flight.

By subjecting to Treasury licensing all transactions involving a property interest of any national of an occupied country, the United States hoped to accomplish several objectives.[11] Most immediately, the Treasury's scrutiny of such transactions was intended to be a protection to owners in invaded countries. In addition, however, it was designed to afford some measure of protection to the American custodians—mostly banks—of the property of these owners.[12] In lieu of government intervention, the custodians had no legal basis for refusing to honor legitimate drafts; and they had no factual basis on which to determine whether a given draft was drawn under German duress or not. A further, though much more remote, prompting of the American controls was the thought that American creditors and investors might eventually be benefited by the government's efforts to keep the assets of invaded countries intact.

For these purposes it was thought sufficient to require licenses only for those transactions which involved the property of the invaded nations. However, experience with enforcement readily showed, and policy belatedly recognized, that effective prevention of any specified class of transactions meant rigorous supervision of *all* transactions involving a foreign interest.[13] Moreover, as the United States increasingly undertook economic measures against the Axis, a new motive for exchange control appeared: the bolstering of our anti-Axis economic policy by means of a financial blockade. Hence, from a limited control intended primarily to protect invaded countries, the United States exchange control grew in a year to a thoroughgoing Treasury supervision of any foreign financial transaction which might redound to the benefit of the Axis.

[11] The motives of the freezing are available in the press accounts of interviews with government officials. See, for example, "Treasury Studies Legality of Policy of Foreign Assets," *Jour. of Comm.*, July 19, 1940, and editorial in the *New York Herald Tribune*, April 12, 1940. See also Treasury Department Appropriation Bill for 1942, Hearings before the Subcommittee of the House Committee on Appropriations, February, 1941, 77th Cong., 1st sess., pp. 78, 82-83, 84, 85; *Banking*, Aug., 1941, pp. 24-25; A. M. Strong, "The Freezing of Foreign Assets," *Am. Banker*, July 22, 1941. Later motives of economic warfare were specified in the official Press Release accompanying the Executive Order freezing Japanese and Chinese assets, July 26, 1941. J. W. Pehle, Assistant to the Secretary of the Treasury, in charge of the Division of Foreign Funds Controls, reviewed the purposes of the control and its development in a luncheon address before the Foreign Credit Interchange Bureau in March, 1941 (mimeographed). For an inferential summary of purposes, see "Foreign Funds Control through Presidential Freezing Orders," *Columbia Law Rev.*, June, 1941, pp. 1042-44.

[12] However, the issuance of a license does not necessarily determine the licensee's right to the funds involved, except in the case of foreign public funds where the State Department has been authorized by statute to certify the right of the claimant. Pub. Doc. No. 31, 77th Cong., 1st sess., chap. 43, S. Doc. 390.

[13] " 'Freezing' of Assets May Be Broadened," *Jour. of Comm.*, February 11, 1941; "Millions in U. S. Money Withdrawn by Italians," *New York Herald Tribune*, May 3, 1941; "Reich Liquidating Its Credits Here," *New York Times*, April 17, 1941; and editorial in *The* (London) *Economist*, Feb. 1, 1941.

In form the control is simply a supervisory power over financial transactions with foreigners,[14] delegated by the President under statutory authority[15] to the Secretary of the Treasury. Under the President's orders[16] any transaction with, or for, or in behalf of, a foreign national of 35 specified countries[17] requires a Treasury license. To obtain such a license the parties to a proposed transaction must submit to the Federal Reserve Banks notarized forms setting forth all relevant details.[18] The banks forward these applications[19] to the Treasury's Division of Foreign Funds Control, where the facts are examined in the light of policies determined by an Inter-Departmental Committee. A licensee must keep a record of the transaction and may be required to report.[20] In addition, all holders of foreign property are required to report the nature of the holding to the Treasury.[21] Failure to conform to the orders is punishable by 10 years' imprisonment, or $10,000 fine, or both.[22]

The immediate problems of the control are those which concern its wartime effectiveness in preventing economic benefits to the Axis and economic detriments to victims of the Axis.[23] These problems are largely short-run problems of administration and, as such, do not raise sig-

[14] A fuller description of the control can be found in Hearings on the Treasury Department Appropriation Bill, *op. cit.*, pp. 76-105; Amos E. Taylor, "Frozen Funds and National Defense," *For. Comm. Weekly*, Aug. 9, 1941, pp. 6-7; "Property Census—An Element in Foreign Funds Control," *ibid.*, Aug. 16, 1941, p. 6.

[15] The President's authority derives from the Trading with the Enemy act of October 6, 1917, sec. 5 (b) (40 *Stat.* 415), as amended by the Emergency Banking act of 1933 (48 *Stat.* 1), and the Joint Resolution of May 7, 1940, which last see for the final version of the power. Pub. Res. No. 69, 76th Cong.

[16] The "freezing orders" issued under this authority date from April 10, 1940 (Executive Order No. 8389, amending Order No. 6560 of January 15, 1934) to December 26, 1941 (Executive Order No. 8998, amending earlier orders so as to extend freezing automatically to all territory occupied by the enemy). The basic control documents, namely the Executive Orders, General Rulings, General Licenses, Public Circulars, Proclaimed List of Certain Blocked Nationals, and the Presidential Proclamation authorizing the list, are all available from the Treasury or the Federal Reserve Banks.

[17] Norway, Denmark, The Netherlands, Belgium, Luxembourg, France (including Monaco), Latvia, Estonia, Lithuania, Rumania, Bulgaria, Hungary, Yugoslavia, Greece, Albania, Andorra, Austria, Czechoslovakia, Danzig, Finland, Germany, Italy, Liechtenstein, Poland, Portugal, San Marino, Spain, Sweden, Switzerland, U.S.S.R., China, Japan, Thailand, Hong Kong, and the Philippines. "Nationals" include many persons besides actual citizens or subjects. See Executive Order No. 8785, as amended, sec. 5. The transactions of unoccupied neutrals and anti-Axis belligerents are subject to liberal license provisions.

[18] Executive Order No. 8785, as amended, sec. 4(A), and Regulations thereunder, sec. 130.3.

[19] Except a small proportion which are decided at the Federal Reserve Bank on the basis of General Authorizations from the Treasury.

[20] Executive Order No. 8785, as amended, sec. 4(A and B); Regulations, sec. 130.3.

[21] Regulations, sec. 130.4.

[22] Executive Order No. 8785, as amended, sec. 8.

[23] See the present writer's "Freezing Dollars Against the Axis," *Foreign Affairs*, Oct., 1941, p. 113.

nificant issues in international finance.[24] The problem of what is to be done after the war, however, raises really vital questions of financial policy. And the consideration of these questions cannot be postponed until the return of peace.

The absence of government exchange controls has been habitually described—it may be wondered why—as a state of "free exchange." Any country's regard for free institutions may well command respect in these times, but a willingness to justify chronic disorder by labeling it "free" is merely an invitation to authoritarian controls. From this point of view, the striking characteristic of international finance from 1919 to 1939 is not that it was converted from a free to a controlled basis in most nations, but that, whether controlled or free, it moved in a more or less unbroken crescendo of disorder, punctuated at the beginning and end of the period by the complete rupture which world war entails.[25] Thus after the war the question will scarcely be one of deciding whether or not to return to pre-war financial institutions. There is literally nothing to return to. The question will be how to induce some degree of order in a field carrying a long tradition of disorder.

II. An Approach to Policy

In the remaining paragraphs of this paper it will be argued that: (1) The circumstances attending the return of peace will not be auspicious for an unqualified removal of United States controls, because such a removal would likely result in an arbitary allocation of United States goods not on the basis of international needs but on the basis of accrued claims, and because the unrestrained expenditure of such claims would embarrass the rebuilding of an adequate mechanism for international finance. (2) The possibilities in an international clearance of claims are not promising, either as a means of disposing of frozen claims here and abroad, or as a step in the reconstruction of international finance. (3) Only a comprehensive and carefully planned pattern of economic reconstruction will make possible a satisfactory handling of the frozen funds. In such a pattern of reconstruction, the frozen funds could, with considerable freedom, play a useful rôle.

Unqualified removal of controls. At the close of the last war, the wartime controls, which were very similar to the present ones, were

[24] The problem of securing Latin American coöperation in the control may be thought of as an exception to these statements. The international control techniques now (February, 1942) being worked out in the hemisphere will unquestionably have some influence on the development of post-war finance.

[25] For brief accounts, see P. Einzig, *op. cit.*, chap. 3; M. A. Gordon, *op. cit.*, pp. 7-46; J. B. Condliffe, *The Reconstruction of World Trade* (New York, 1940), chaps. 2, 3.

removed almost immediately.[26] It might be supposed in the first instance that a similar procedure would be appropriate after this war. After all, are not the frozen claims legitimate obligations of the United States? Short of a desire or willingness to repudiate these debts, what basis would the United States have for refusing to release the funds for whatever use their owners should elect to make of them?

This line of thought, however, oversimplifies the complications which may embarrass the free use of foreign funds after the war. Obviously the mere fact of a debt's existence is not a sufficient reason to support the unqualified freedom of international funds. The very existence of wartime restrictions shows that circumstances may arise under which obligations other than those of a simple debt nature may be regarded as determining the status of foreign funds. The question then is whether the circumstances of the immediate post-war period may, like the war itself, point toward the maintenance of some restrictions on the use of foreign claims.

The first objection to an unqualified release of the funds is that such a step would inevitably lead to an arbitrary international allocation of the available American goods. That such goods will be in intense demand after the war seems clear, in view of the industrial demoralization of war areas. If the goods are to be allocated through ordinary market processes, the owners of the frozen funds would gain an arbitrary advantage. How arbitrary is clear when it is recalled that the frozen claims have no necessary relation to a given nation's war sacrifices or post-war needs. For example, France presumably will have intact most of its current frozen holdings; China, Britain and Russia will have no substantial holdings at all (except their current gold production). Conceivably the problem of these arbitrary purchasing-power disparities might be approached in terms of new loans or post-war lease-lend arrangements. Since, however, the effectiveness of foreign purchasing power is limited by the export potentialities of our economy,[27] any leveling of arbitrary advantages via increasing the funds available to foreigners would force the United States (1) to permit an inflation of export prices, with the attendant depreciation of the dollar at the expense of domestic consumers, or (2) to adopt export controls, in which

[26] A presidential order of July 26, 1919, freed foreign accounts except for certain restrictions on Central European exchange, which were retained to facilitate the work of the American Relief Administration, and restrictions on transfers to Bolshevik sections of Russia, which were retained as part of the general United States policy vis-à-vis Russia. By December, 1920, even these restrictions were removed. Federal Reserve Board, *Annual Report*, 1919, pp. 48-49; *ibid.*, 1920, p. 34.

[27] These potentialities will probably be relatively low in the immediate post-war period when our economy is still geared to the production of war goods.

case we are in effect controlling foreign exchange.

In a period of post-war unemployment there might be considerable pressure on the government to adopt just such a policy of stimulating exports in order to increase domestic employment. The merits of this suggestion cannot conveniently be explored here, but we may note three strong objections: (1) the conscious inflation of export prices is itself a form of debt repudiation, a result utterly inconsistent with the motives here assumed to base its adoption; (2) it is doubtful that it would lead to any desired allocation of United States goods; and (3) as far as the (good) effect on employment in the United States is concerned, similar stimulation could be obtained by domestic-market projects, without any loss of product via exports.

The second objection to an unqualified release of the claims is that their complete liquidation might be a considerable blow to the reconstruction of international finance. As is well known, the 7.5 billion dollars in frozen claims[28] were originally acquired directly or indirectly through the shipment of gold, securities, and merchandise for sale in the United States. The movement of long- and short-term capital in the years 1935-40 itself built up a large part of these claims: 3.2 billion dollars in bank balances, 1.25 billions in earmarked gold, 803 millions in foreign securities, and 101 millions in brokerage balances.[29] The very fact that such funds could be transferred from other countries to the United States illustrates that some sort of system of international finance was *operating,* whether well or badly. Instruments of international monetary significance (*e.g.,* gold and securities) did exist. In effect the capital movement meant that balances which were formerly maintained in various markets came to be shifted to the United States market. The gold which the United States acquired in consequence remains available to secure their convertibility. For all practical purposes the United States became the international bank of the world, with substantially all international funds maintained here, and substantially

[28] Estimated as of the end of 1941. D. W. Bell, Under Secretary of the Treasury, listed the holdings of Denmark, Norway, The Netherlands, Belgium, Luxembourg, France, Latvia, Estonia, Lithuania and Rumania at 4.4 billion dollars based on a Treasury census of frozen holdings. (Hearings, *op. cit.,* p. 80.) My estimate for other countries is based on Federal Reserve and Commerce Department figures, corrected for estimated capital movements and checked against estimates made informally by various interested government agencies. For the country-by-country breakdown, see the Table, p. 266. It is to be borne in mind that, for the purposes of the freezing orders, many holdings which would not ordinarily be defined as "foreign" are included. (See footnote 17, *supra.*) Such inclusion might make the figure some 25 per cent larger than estimates of foreign holdings made for other purposes. To serve as an estimate of frozen funds at the end of the war, the figure would have to be qualified further by reductions or increases through licensed transactions during the war. The volume of these transactions is not available, but scattered evidence in the press on licensing policy and the *Federal Reserve Bulletin's* figures on current capital movements to and from certain of the frozen countries suggest that the frozen funds are being kept substantially intact.

[29] Derived from statistics on international capital movements in the *Federal Reserve Bulletin.*

all the international reserves (gold) here too.[30] No one can question the technical soundness of the reserve position of the United States. International claims could be completely liquidated in gold without disturbing the larger portion of these reserves. In the light of this unprecedentedly strong reserve position, why would the system of international finance be endangered by removing restrictions on foreign funds?

The danger is paradoxical only on first glance. United States gold reserves are not inadequate in the usual sense. They are merely irrelevant. There are good reasons to believe that a lifting of restrictions would not start a movement from dollar claims to gold, but rather from gold to dollars, just as before the war. These reasons are, firstly, that the post-war needs of nations owning dollar resources or gold are such as to urge their expenditure on goods; and, secondly, it seems unlikely that they will be in a position to remove their own controls after the war.[31] The United States, alone being capable of selling goods and amenable to buying gold, will become the place where international claims are cashed—not in gold, but in goods. The position of the United States is roughly comparable to that of a bank whose depositors all want to cash their deposits, but refuse to accept cash. This upside-down result is only another facet of the financial inversion which, as other writers have noted, has put gold on a dollar standard.

If this sort of encashment of international claims should be allowed to take place, as well it might, it would amount superficially to an honoring of international claims, but in reality to a winding-up of the system of finance to which they are relevant. The United States in effect would have "cashed" all the world's gold in a procedure through which the gold loses any further international monetary significance. The gold standard would paradoxically be lost through the very steps taken to save it. This paradox, though, is only another reminder that an international standard, gold or other, depends on international policy, not on unilateral action by a single nation.

Thus we may conclude that an unqualified removal of restrictions on foreign funds would be undesirable because (1) it would amount to an arbitrary allocation of limited United States production among the needy nations in the post-war reconstruction, and (2) it would tend to dissolve the available mechanism of international finance by permitting

[30] An accurate estimate of funds capable of conversion into dollars but not now in this country is not really possible. Of some interest is the Federal Reserve estimate that at the end of 1939 the potential dollar purchasing power of foreigners, including gold reserves not actually in this country, was 17.4 billion dollars. *Federal Reserve Bulletin*, Dec., 1939, p. 1042. This estimate does not, of course, take into account lease-lend balances or other war credits.

[31] The problem of maintaining a balance of payments without further depreciation of war-weakened currencies, and of expending the available foreign exchange resources on the imports thought to be most necessary in a reconstruction period, may be expected to prompt a continuation of controls, unless the nations can be persuaded by an offer of alternative advantages to relax their controls. This possibility is treated below in the text.

the complete liquidation of instruments formerly possessing international significance.

Before turning from the desirability of removing our exchange controls without any further understanding as to the use to which the freed funds can be put, two other aspects of the problem should be mentioned, though they cannot be discussed in any detail here. The first is to note that the legal consequence of removing the controls would be to turn over to the courts the innumerable complex problems of ownership and public policy which are bound to arise. The courts, in determining which of several foreign claims to various funds should be honored, would have no well-developed definition of public policy on which to rely.[32] The problem would be especially formidable in the event that the United Nations should fail to bring about the restoration of France, Belgium, and The Netherlands, the largest owners of frozen funds. (Together, these three countries own over half of the frozen funds.) The second is the political importance of the defeat of Germany. If Germany is not defeated, the likelihood that the United States would permit Europe's American funds to be used, under German direction, for the purchase of American goods seems most remote, quite apart from the economic considerations discussed above.

An international clearance of debts. The United States might well feel that the disposition of foreign claims in this country does not represent a problem suitable for unilateral action by this country, but rather represents one aspect of the larger problem: What is to be the post-war fate of international claims everywhere? Recognizing this larger problem, some observers, including Secretary of the Treasury Morgenthau, felt, even in the early weeks of our control, that the frozen foreign funds might afford a means of securing for American investors and creditors at least a partial payment on their outstanding claims against foreigners.[33] This concern about foreign debts was not new. Discussions of the defaulted European war debts, the defaulted South American loans, the German-blocked dividends and interest payments, and the Mexican expropriations provide much evidence of its place in American foreign policy.[34] But the United States had never before been in a position to undertake directly retaliatory action; there were no foreign balances in this country to be blocked abroad. The war-prompted flight

[32] For a discussion of the state of the law relevant to the settlement of foreign claims, see *Columbia Law Rev., op. cit.*, pp. 1048 *ff.*, and an extended note on "Protective Expropriatory Decrees of Governments in Exile—Their Application to the United States," in the same issue, p. 1072. See also Arthur Nussbaum, *Money in the Law* (Chicago, 1939), chap. 8.

[33] See, for example, "U. S. May Use Funds of France on Debt," *New York Times*, Aug. 9, 1940; *PM*, Oct. 10, 1940.

[34] See J. W. Gantenbein, *Financial Questions in United States Foreign Policy* (New York, 1939), chap. 1 and *passim*.

to the dollar changed this situation by radically changing our balance of payments.[35] The influx of foreign capital resulted in the piling up of European balances here, despite our favorable balance on current account. At the end of May, 1941, for instance, the *Federal Reserve Bulletin* reported foreign banking funds in this country at 3.9 billion dollars, in contrast to a mere 364 millions reported by United States banks as their foreign holdings. So the United States had the power, if it wished to exercise it, to do what England had frequently done during the past decade—insist that, before foreign balances would be released, some agreement should be made designating a portion of the funds to be used in satisfaction of foreign debts.

The figures for total foreign investments of Americans abroad and of foreigners here appear to suggest that such a payments agreement might provide for extensive compensation to American investors and creditors. Our assets abroad at the end of 1940 were estimated by the Department of Commerce to be slightly over 11 billion dollars, or 23 billion dollars if obligations arising out of World War I are included. If only the countries whose American assets have been frozen by the President's orders are counted, our foreign investments are as follows:[36]

Direct investments	$1,051	million
Portfolio investments (dollar bonds)	613	"
Short-term ("Banking") funds	80	"
World War I debts	8,069	"
	$9,813	"

The frozen assets, we have seen, are estimated at 7.5 billion dollars.

However, the possibilities of offsetting American claims against frozen foreign claims is less promising than these totals might suggest. If the clearance is undertaken on a country-by-country basis,[37] a lump

[35] After 1935 the United States might have blocked foreign balances to force a settlement of debts to Americans, but strong political considerations operated increasingly against the step. We hesitated to demoralize further the already demoralized European markets, and we were still hopeful that our efforts in behalf of free finance would be successful. *Cf.* Secretary Morgenthau's defense of the government's gold-buying policy. Letter to Senator Wagner (Mar. 22, 1939), Treasury Department, Press Release, March 23, 1939.

[36] See table, p. 266, and footnote 28 for sources.

[37] If the occupied countries owning frozen assets here are restored after the war, clearance on a country-by-country basis would be the only possible method. A lumping together of European funds would, of course, be to some extent an appropriation of the assets of one country to pay the debts of another. If the European countries are not restored, or if Germany remains in control of Europe, then there would be somewhat more justification for treating the assets as "European." In this event, however, the procedure would be less a reciprocal clearance than a unilateral action by the United States, recognizing the loss of its European investments, and appropriating European assets here as an offset.

figure of foreign investments is not an appropriate indicator of clearance possibilities. From the table below it can be computed that the frozen assets of eight countries exceed our placements there, also frozen,

A PARTIAL BALANCE SHEET OF AMERICAN AND FOREIGN CLAIMS[a]
(In millions of dollars)

Country	Foreign claims against United States	United States claims against foreigners		
		World War I	Other	Total
Austria	$ 9	$ 26	$ 6	$ 32
Belgium	760	401	53	454
China	275	0	140	140
Czechoslovakia	5	165	7	172
Denmark	92	0	111	111
Finland	17	8	10	18
France	1,593	3,864	167	4,031
Germany	107	1,225	382	1,607
Greece	122	32	24	56
Hungary	24	2	33	35
Italy	72	2,005	155	2,156
Japan	131	0	197	197
Latvia, Lithuania, Estonia	29	29	53	82
Luxembourg	48	0	—	—
Netherlands	1,619	0	96	96
Norway	175	0	91	91
Poland	7	206	81	287
Portugal	157	0	17	17
Rumania, Bulgaria	55	64	56	120
Spain	30	0	86	86
Sweden	516	0	28	28
Switzerland	1,484	0	12	12
U.S.S.R.	39	192	10	202
Yugoslavia	71	62	33	95
Total	$7,437	$8,281	$1,844	$10,125

[a] Not listed here are Thai assets, frozen on December 9, 1941. Furthermore an amending order of December 26, 1941 froze Hong Kong and provided for the automatic freezing of all further territories occupied by the enemy. Executive Order No. 8988.

Sources: For foreign holdings in the United States, see footnote 28. The United States claims arising from World War I are taken from the United States Treasury's *Annual Report*, 1940. Other United States investments are estimated by correcting the Commerce Department's figures for 1936 (the last year for which the figures are available by country) on the basis of the increase shown in Commerce Department's estimates for our investments in all countries in 1939 (United States Department of Commerce, Release of July 15, 1940). Figures for our investments in Luxembourg are not available.

by 4.3 billion dollars, indicating that this amount of the frozen funds would not be available for offsetting purposes.

If a further distinction is drawn between government and private debts, and private assets are excluded from clearance against public debts, a further reduction must be made in the amount of frozen foreign

funds which might be disposed of by clearance. The amount of reduction on this score can be estimated only roughly, since available statistics do not distinguish between private and public funds. But there is reason to believe that, by-and-large, the frozen funds are about two-thirds private, and one-third government and central bank.[38] If this estimate is correct, clearance would take care of only 1.5 billion dollars.

In addition, certain reductions must be made in the American claims which might appropriately be allowed. The clearing estimates given above have lumped all American claims together—war debts, private claims, dollar bonds. It is at least doubtful, however, whether the United States should or would insist that the old war debts be included in clearance. An obvious element of inequity would arise from the circumstance that the major debtors of World War I are, with the exception of France, the countries with small American holdings. Of the 8 billion dollars in war debts owed by the countries with frozen American holdings, three-fourths are owed by three countries: Germany (1.25 billion dollars), Italy (2 billion dollars), and France (3.9 billion dollars). England, with an old war debt of 4.4 billion dollars, would escape the clearance altogether. Moreover, the United States might decide as a matter of policy that a portion at least of the public funds of The Netherlands, Belgium, Poland, Czechoslovakia, Greece and Yugoslavia should be turned over to Britain in accordance with understandings, already reached or to be reached by the end of the war, between Britain and the governments-in-exile of these countries. If for these or other reasons it should be felt inappropriate to include the old war debts in the clearance, then the only American claims against the public funds of the frozen countries would be 500 million dollars in dollar bonds.[39] A clearance of 347 million dollars is the greatest possible on this basis.

In making these clearance calculations, private claims have been excluded on the grounds that responsibility for private obligations is not properly imputable to governments, except where there is a specific government guarantee. Certain circumstances might arise, however,

[38] The proportion differs considerably for different countries, according to the scattered information which can be derived from evidence on gold holdings and central bank holdings. In the case of some countries, the writer has been able to get no information at all. However, since gold is mostly owned by governments and central banks, and securities by private owners, with banking funds split between the two, and since fairly accurate estimates of these types of holdings are available, the proportion here would seem at least not unreasonable. Central bank funds were here arbitrarily counted as public in nature, although there is considerable question whether for other purposes central banks are to be regarded as public or private institutions.

[39] This figure includes loans guaranteed by foreign governments and obligations of municipal and provincial governments, as well as the direct debts of national governments. The inclusion of municipal and provincial obligations, which total 82 million dollars, is admittedly arbitrary. See P. D. Dickens, "Status of United States Investments in Foreign Dollar Bonds, End of 1940," *For. Comm. Weekly,* July 19, 1941, p. 3.

which would render government responsibility for private commitments more reasonable. This would be the case if governments adopted (or continued) exchange controls which in effect appropriate the foreign assets of their private citizens. Under such circumstances, governments might be considered to be assuming responsibility for the debts of their private citizens, even though the privately-owned assets which the governments appropriate do not belong to that group of private citizens against whom Americans have claims. The controlling governments would then be chargeable with preventing private debtors from making payments. If such circumstances should apply to all the countries whose funds are now frozen in the United States, the possible clearance, country by country, would be 1.2 billion dollars, approximately the figure (1.5 billions) obtained above by excluding frozen private assets, but including the old war debts. Inclusion of both war debts and private claims of the United States does not materially increase clearance possibilities since either one exhausts the major portion of the available funds in this country.

It is not possible to make a defensible estimate of assets of private foreign debtors in this country which might be available for satisfaction of their obligations to us. It seems unlikely that the amount represents any substantial portion of the frozen funds, however. For instance, foreign exporters would typically own funds here, whereas foreign importers would owe debts. Only governments may be expected to be debtors and creditors of the United States at the same time.

We may conclude, then, that (1) in the unlikely case Germany should succeed in dominating Europe, and we should counter with a seizure of the frozen assets of that entire area, making these assets available for the satisfaction of American claims of all types, the clearing process would operate at maximum efficiency. It would dispose of 4.6 billion dollars of the frozen funds. (2) If, however, European countries are restored to their former national status at the end of the war, the maximum clearance (country by country) would be 3.2 billions; but this amount would probably be reduced to practically nothing by weeding out both the American claims and the foreign funds thought to be inappropriately included in the clearing.

In general the clearance of claims is unattractive, even apart from the limitations the figures indicate, because it arbitrarily singles out a limited area of the world for a forced settlement of claims, while neglecting such important areas as the British Empire and Latin America. Moreover, it is at best a procedure that would contribute greatly to the further economic segmentation of the world. As such, it would complicate, or even be utterly incompatible with, plans for the reconstruction of war-blighted countries.

The frozen funds in planned reconstruction. The perplexing problem in the post-war handling of foreign funds concerns not so much their equitable liquidation as their effective re-utilization in the processes of international finance. For the reasons expressed above, there is at least a strong possibility that unqualified removal of the controls, or removal conditioned on a reciprocal clearance of claims, would result in the extinction of all international balances—a process roughly amounting to the winding-up of the mechanism of international finance. Consequently, either of these alternatives would deal a severe blow to hopes that an adequate pattern of world finance might be constructed out of the remains of the inadequate pre-war system. The problem, then, is how to qualify the post-war release of funds so as to avoid these objections.

Basically the function of international finance, of which the foreign claims in every nation are an important aspect, is to provide international economic development with what we may describe as flexibility in time and space. Time flexibility in a system of finance permits the development of any given area of the world at a rate faster than the savings of that area would allow. Space flexibility gives facility for transferring savings from one area to any other. During the present world war, pressing needs for the greatest possible expansion of armaments plus the strategic advisability of isolating enemies and unfriendly powers reduce flexibility to a very low degree. But, what is more relevant to our purposes, even before the war the financial system had an intolerably low degree of flexibility, owing to factors too familiar to justify recital here.

At this distance from the circumstances attending the return of peace, it is difficult to speak concretely of the precise rôle which the now frozen foreign funds may be suited to play in a program of remedying the inflexibility of world finance. It is obvious that controls which operate as virtual embargoes on the movement of funds reduce flexibility. Similarly, the existence of a huge volume of defaulted international debts reduces it, as do unstable currencies. But it would be a serious error to suppose that all exchange controls, other than limited governmental operations to smooth out currency fluctuations, must be inimical to flexibility. For, despite the abstruse and extensive political manipulation of exchange controls in the last decade, there seems to be little hope of preventing defaulted debts, capital embargoes, or currency instabilities without a very appreciable degree of government control.[40]

[40] Probably few economists would care to defend the abuses of exchange controls, just as few would care to defend the financial abuses which inaugurated the era of exchange controls. Ellis apparently fears that the discriminatory possibilities in exchange control practice cannot be avoided. (*Op. cit.*, p. 217.) The danger cannot be glossed over. It

The vast movement of international funds to the United States after 1934 was unquestionably a manifestation of chronic disorder in international finance. Even so, the movement may prove to have been not entirely unhappy for the eventual reconstruction of finance. By unprecedented pooling of financial reserves in a single center, the movement may prove to have facilitated opportunely the development of a nucleus for world banking. Moreover, the movement has given to the United States increased influence in the use of international funds in the reconstruction of finance along liberal lines.[41] Thus, for example, the United States might advantageously release funds for expenditures on American goods on the condition that the beneficiary countries agree to maintain minimum gold balances in New York, or subscribe to an agreed amount of capital stock in a bank specially created to facilitate short- and long-term capital movements among the member countries.

Without a planned reconstruction, any attempt to release the frozen foreign funds will worsen the condition of international finance, proving at the same time to be very costly to the United States. But in a planned reconstruction, the problem of the frozen funds largely disappears. For example, once a means of international banking is reconstituted, there would no longer be any reason to fear the effect of allowing the owners of frozen funds substantial freedom within the agreed rules. There still might be a considerable movement to convert dollars into goods, but this movement would proceed from the actual post-war need for goods, and not from the need to dispose of international funds that have lost their significance outside of this country. Nor would it any longer be unlikely that a good portion of the funds would be withdrawn in the form of gold (assuming, of course, that the new agreements retain gold as an international money). For gold could again have a useful function in defining currency relations, securing legitimate adjustments in balances of payments, and even as a familiar basis for the control of domestic currencies.

It would be pointless to understate the difficulties which beset such a program. It involves the articulation of currencies weakened not only by unproductive foreign debts and depressed world agricultural prices, but even more by the strains of war itself, both by distortions in the

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seems scarcely realistic to entertain the possibility of government controls aimed at international monetary stabilization without also recognizing the same opportunities for discriminatory practice. *Cf.* Tasca's account of the development of British bilateralism. (*Op. cit.*, pp. 145-57.) At the same time, there is no reason why international controls should not prove capable of avoiding both discrimination and instability. *Cf.* Virgil Salera's account of Argentine exchange control experience. (*Exchange Control and the Argentine Market* [New York, 1941], chap. XI.)

[41] By "liberal lines" is meant a system of finance which avoids the arbitrary groupings of regions on political rather than economic bases.

balance of payments and by inflationary methods of armaments finance. It further involves conceptions of international responsibility and co-operation which are quite at odds with the nationalistic developments of the past decade. It may provoke opposition among private bankers, who, though not in a position to provide the necessary institutions for a flexible world finance, none the less feel that they must resist the advent of government in their field. They contend that such a program would put finance at the mercy of politics, or more concretely and frankly, that it would deprive them of an established source of revenue.

In conclusion, then, we may say that, in deciding what policy to follow with respect to the frozen foreign funds, when the return of peace removes the reasons for their freezing, the United States must recognize its relation to the whole problem of financial reconstruction. The release of the funds is vastly more complicated than was commonly supposed at the time of their freezing. At the same time, the size of frozen holdings in the United States provides a real opportunity to influence world finance in the direction of an inclusive and flexible system, and away from unrelated arrangements between pairs of nations or among small groups of nations. Just as the war called a halt to the chronic disorders of pre-war finance, so the end of the war will provide an occasion, not soon to come again, for the long-overdue revisions in international finance. The unusual position of the United States at the end of the war, both as the trustee of a very large portion of international funds and as the only large nation in a position to finance reconstruction, could provide the means of taking advantage of that occasion in the interest of more flexible and stable world finance.

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STATISTICAL INVESTIGATIONS OF SAVING, CONSUMPTION, AND INVESTMENT

By MORDECAI EZEKIEL

II. INVESTMENT, NATIONAL INCOME, AND THE SAVING-INVESTMENT EQUILIBRIUM

In the first article of this series we dealt with the functional relation between national income and saving or consumption as derived from statistical analysis of data for the United States covering the past two decades.[1] The hypotheses tested in the last article were:

1. Saving is a function of the current level of income, increasing as the level of income increases, but at a higher rate.

2. Consumption is a function of the current level of net income, increasing as the level of income increases, but at a lower rate than income.

3. The patterns of thrift, expenditure, and consumption at any given level of income are habitual patterns of action, changing only gradually in time, so that changes in current income received by each group produce reasonably consistent changes in total consumption and saving.

In this article we shall examine for the same period the apparent relation of investment to income while holding constant, where possible, the effects of other related factors. Since by our definition in any one year total investment equals total saving, the over-all relation must be the same as that already shown in Figures 4 and 5 of the previous article. This presents a difficulty which is similar to that of attempting to derive both a demand curve and a supply curve from a series of prices and quantities. However, we may gain a much better understanding of how the yearly equilibrium of total saving and investment happens to have been struck at the levels of gross national income prevailing during each of the past twenty years if we look further into the component elements of investment and how they are related to income and other factors.

In addition to studying the behavior of investment under the fluctuating conditions of the past twenty years, we shall also investigate what

[1] Mordecai Ezekiel, "Statistical Investigations of Saving, Consumption, and Investment—Part I: Saving, Consumption, and National Income," *Am. Econ. Rev.*, vol. xxxii, March, 1942, pp. 22-49. Acknowledgment in this, as in the previous article, is due to John Maynard Keynes, Alvin H. Hansen, Gerhard Colm, Walter S. Salant, Hans P. Neisser, A. Smithies, and Paul A. Samuelson, for many valuable suggestions and comments, and to Virginia R. Duncan for the compilation and statistical analyses of this study and for bringing together and abstracting the bibliographical material.

investment would be likely to be more under stable conditions if our economy were operating at a steadily increasing rate of production and income.

The hypotheses which we propose to test here may be stated as follows:

1. If investment is broken down into its various components, the relation to the level of income will vary from item to item. Examination of these separate relations will yield some explanation for the past behavior of income and employment.

2. Investment expenditures are related to certain independent factors, such as the anticipation of future returns and the rate of interest, and others, which examination of the separate components will more clearly reveal.

3. As income rises the increase in potential saving has been more rapid than the increase in potential private investment, and the point at which the two could be in equilibrium has been materially below a level of full employment and production.

4. The levels of investment which could be maintained at full employment with a steadily rising level of national income would differ materially from those which have prevailed during the temporary periods of full employment under past widely fluctuating conditions.

From the analysis in Section A which follows we derive what might be called an "apparent investment-income function" under the conditions of the past twenty years. Comparison of this function with the saving function (Section B) presented in the previous article indicates the levels of income at which saving and investment presumably would have been in equilibrium during the 1920's and 1930's, had there not been investment expenditures which were independent of our private domestic economy. The first two sections of the paper present, then, a study of the behavior of income, investment, and saving under the cyclical conditions existing during the past two decades. The third section of this article attempts to develop the long-term normal investment function—to estimate the investment which would be necessary to maintain a gradually but steadily rising level of full production and employment, while allowing for population growth and technological development. This function may then be compared with the saving function as determined under the institutional patterns of the past two decades to give a measurement of the "gap" between potential saving and potential private investment which would remain to be closed in the post-war period if the national income were maintained at substantially full levels of production and employment, while providing for the expanding population and for continuing increase in productivity.

A. *The Apparent Investment-Income Relation under the Fluctuating Conditions of the Past Two Decades*

Types of Investment

The data on offsets to saving, or income-producing expenditures, were presented in detail in the first article of this series. They are again listed here in Table I. These data may be classified into three groups with respect to their significance from the investment point of view:

Long-term or permanent private investment includes items of private expenditure for all durable producers' capital goods, plus expenditures (either commercially for profit or by individuals for their own use) for housing. Such expenditures cover what classical economists and most business men think of when they speak of "investment." One distinguishing feature of such investment is that it can never be negative.[2] Even in the worst year, 1932, expenditures for long-term permanent private investment totaled 2.0 billion dollars.

Short-term or temporary private investment includes those items of private investment where increases in some periods may be offset by decreases in others. In a stationary society, the total over a term of years would tend to be zero. (Even in a stationary society, long-term investment in contrast would have to equal in amount average depreciation and depletion.) Changes in consumers' credit and in inventories fall in this category.

Over the twenty years from 1921 to 1940 the average annual increase in consumers' credit was only 313 million dollars, and the average annual increase in inventories only 530 millions, yet consumers' credit varied through an amplitude from —1,485 millions to +1,046, and inventory changes from —2,278 to +2,964. While contributing very little to investment on the average, these items of temporary private investment did constitute exceedingly volatile and unstable items in individual years or periods.

Quasi-investment is a complex concept which must be introduced carefully. Both types of private investment, permanent and temporary, are largely conscious investment, in that they result from the deliberate decision of individuals or concerns to buy capital goods, or to buy consumers' goods financed through credit as if they were capital goods.[3] Beyond this investment due to the decision of private individuals or business concerns are items of investment which reflect institutions that

[2] Net investment can of course be negative when depreciation exceeds replacement. We are dealing here, however, with gross national income and gross capital formation. Physical production of plant and equipment can never be less than zero.

[3] This has the single exception that at times increases in inventories may represent involuntary investment, due to a contraction in market outlets after production has been gotten under way.

TABLE I—GROSS NATIONAL INCOME AND INCOME-PRODUCING EXPENDITURES THAT OFFSET SAVING, BY YEARS, 1921–40

(In millions of dollars)

Year	Gross National Income	Income-Producing Expenditures that Offset Saving							
		Total	Equip-ment	Plant	Hous-ing	Con-sumers' Credit	Net Foreign Balance	Inven-tories	Govern-ment Net Contri-bution[b]
1921	63,751	9,548	2,758	2,475	2,313	−20[a]	1,327	47	648
1922	64,295	11,870	3,140	2,644	3,801	730[a]	293	514	748
1923	74,784	16,990	4,622	3,280	4,821	1,046[a]	−91	2,964	348
1924	75,161	13,279	4,343	3,307	5,229	311	530	−1,056	615
1925	79,686	17,032	4,598	3,591	5,750	842	199	1,523	529
1926	84,813	16,760	4,941	4,185	5,535	648	−39	1,246	244
1927	82,708	15,328	4,644	4,133	5,357	217	301	308	368
1928	86,167	16,039	4,743	4,103	5,019	821	518	102	733
1929	89,984	17,280	5,590	4,559	3,764	987	446	2,713	−779
1930	79,764	9,709	4,568	3,769	2,292	−613	632	−1,190	251
1931	63,901	5,360	2,940	2,182	1,734	−1,128	162	−2,278	1,748
1932	47,446	2,025	1,606	1,197	713	−1,485	132	−2,018	1,880
1933	46,217	6,421	1,503	866	461	−140	205	−1,598	1,928
1934	55,839	8,530	2,306	1,131	521	415	459	270	3,428
1935	61,681	10,312	3,092	1,260	918	858	181	273	3,730
1936	71,400[a]	14,281	4,134	1,651	1,536	1,355	−179	1,447	4,337
1937	79,400[a]	14,211	5,280	2,294	1,910	891	−5	2,749	1,092
1938	70,800[a]	8,457	3,618	1,776	1,817	−1,400	1,030	−758	2,374
1939	75,710[a]	15,165	4,289	1,852	2,270	907	781	1,415	3,651
1940	82,000[a]	17,580	5,751	2,360	2,431	1,014	1,417	733	3,874

[a] Estimated.

[b] Omits state and local net contribution from 1929 on.

NOTE: For sources and methods, see statement submitted to the Temporary National Economic Committee by Lauchlin Currie on May 16, 1939 (Hearings before the Temporary National Economic Committee, Pt. 9, *Savings and Investment*). See also Oscar L. Altman, *Saving, Investment, and National Income*, T.N.E.C. monog. no. 37 (Washington, Supt. Docs., 1941). These data are revisions of those previously published.

lie largely outside the private domestic economy as such. These items are summarized in the two categories of net foreign balance and of government net contribution. If it were not for the intervention of the government through tariffs and other trade restrictions (and possibly of private business through export dumping and other forms of forcing exports) the net foreign balance, like the items of temporary investment, would tend to average out near zero over a long term of years.[4]

[4] Keynes has shown clearly that maintenance of a large and continuous positive net foreign balance is a form of economic warfare and one of the causes of international warfare. His discussion here seems to suggest the further conclusion that in a stable and peaceful world, where every country had equal opportunity to maintain the employment and increase the welfare of its citizens, net foreign balances would tend to average out at zero

The government net contribution is the final balancing factor between saving and investment. Although public expenditures contain some elements of public or social investment, they also include at times large amounts for relief, old-age grants, farm benefits, defense or military expenditures, and similar items which do not represent the purchase of capital goods. Furthermore, when public works (as the schools

TABLE II—INCOME-PRODUCING EXPENDITURES THAT OFFSET SAVING, CLASSIFIED INTO THREE GROUPS

(In millions of dollars)

Year	Permanent (long-time) Private Investment	Temporary (short-time) Private Investment	Quasi-Investment	Total
1921	7,546	27	1,975	9,548
1922	9,585	1,244	1,041	11,870
1923	12,723	4,010	257	16,990
1924	12,879	−745	1,145	13,279
1925	13,939	2,368	728	17,032
1926	14,661	1,894	205	16,760
1927	14,134	525	669	15,328
1928	13,865	923	1,251	16,039
1929	13,913	3,700	−333	17,280
1930	10,629	−1,803	883	9,709
1931	6,856	−3,406	1,910	5,360
1932	3,516	−3,503	2,012	2,025
1933	2,830	−1,738	2,133	3,225
1934	3,958	685	3,887	8,530
1935	5,270	1,131	3,911	10,312
1936	7,321	2,802	4,158	14,281
1937	9,484	3,640	1,087	14,211
1938	7,211	−2,158	3,404	8,457
1939	8,411	2,322	4,432	15,165
1940	10,542	1,747	5,291	17,580

or roads built in the 1920's) are in part paid for concurrently from taxes levied on commodities, or which otherwise directly reduce consumers' expenditures for their own consumption, the purchase of real capital goods by public agencies is partly offset by the reduction of consumption purchases by individuals, and so does not use up savings. For these reasons (which are discussed at more length in the basic studies on the subject)[5] the net (adjusted) difference between government re-

over long periods of time. J. M. Keynes, *The General Theory of Employment, Interest, and Money* (New York, Harcourt Brace, 1935), pp. 333-51.

[5] Testimony by Lauchlin Currie, Hearings before the Temporary National Economic Committee, Pt. 9, *Savings and Investment* (Washington, Supt. Docs., 1940), pp. 3528-29, 4017.

ceipts and government expenditures, although it must be regarded as an offset to saving, cannot be regarded as investment in the conventional sense of expenditure for capital goods.

Net foreign balance and net government contribution are thus items that offset saving in ways quite different from the traditional concept of direct purchase of real capital goods. For that reason, the term *quasi-investment* will be used here to designate the sum of these two items.[6]

The annual investment expenditures, broken down into these three groups, are summarized in Table II.

When these three elements of investment and gross national income are charted (Figure 1), the differences in their behavior are marked. Permanent private investment and national income vary concurrently, with the relative magnitude of variation much higher in investment. Temporary private investment on the contrary tends to be negative in amount during periods of constant or declining business activity. Permanent private investment is apparently associated primarily with the *amount* of national income; temporary private investment, primarily with the *rate of change* of national income.

The extent to which private investment is related to national income is shown more closely in Figure 2. Here the two components, permanent and temporary, are plotted on two dot charts with national income as the other variable. The general positive relation is quite marked, especially for permanent investment. It is clear that national income (or the level of business activity or anticipations which it reflects or engenders) is closely associated with both permanent and temporary investment.

The relation of quasi-investment to national income (Figure 3) has been quite different. From 1921 to 1933 there was a slight negative correlation.[7] Since 1934, with much larger volumes of net government contribution, the correlation has been generally positive, though 1937 falls far out of line with the other observations for this period.

In view of the dissimilarity of behavior, the factors related to permanent private investment and temporary private investment will be examined separately.

[6] Gerhard Colm has suggested that the breakdown of investment into permanent or long-term, temporary or short-term, and quasi-investment might well be extended to saving as well, with particular reference to quasi-saving and quasi-dissaving. Inasmuch as the available data on the makeup of saving are not nearly as adequate as the data on the components of investment, we have not attempted to carry this suggestion through for the present. Salant suggests that the behavior of each of the separate components of quasi-investment, imports, exports, adjusted government receipts, and adjusted government expenditures, might well be studied separately. This has not been attempted in this over-all survey, but is left for subsequent more detailed analyses.

[7] This may have been due to the tendency of government revenue (which is a negative component of net government contribution) to rise with national income, while total expenditures remained relatively constant.

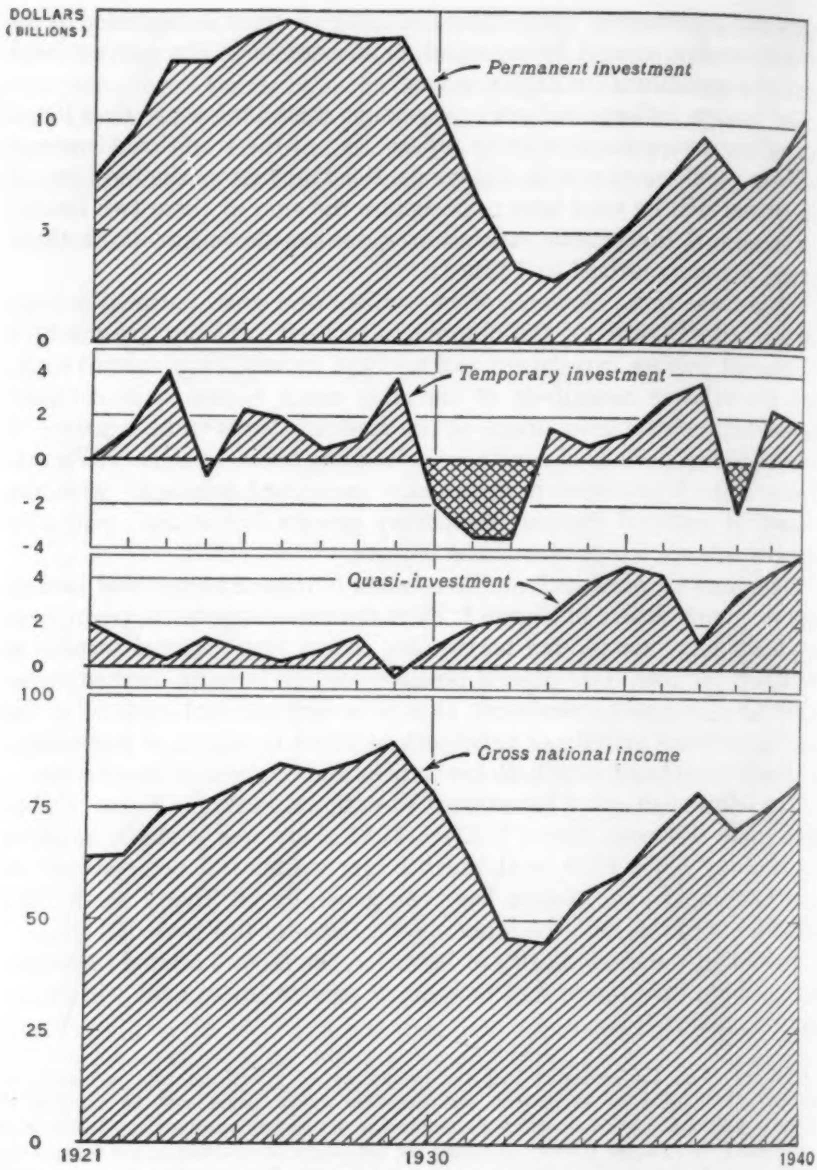

FIG. 1—Investment Components and National Income, 1921-40.

Permanent Private Investment and National Income

Permanent private investment for a given national income was high from 1922 to 1925. Thereafter, permanent investment showed no further increase as national income increased to 1929, indicating a down-

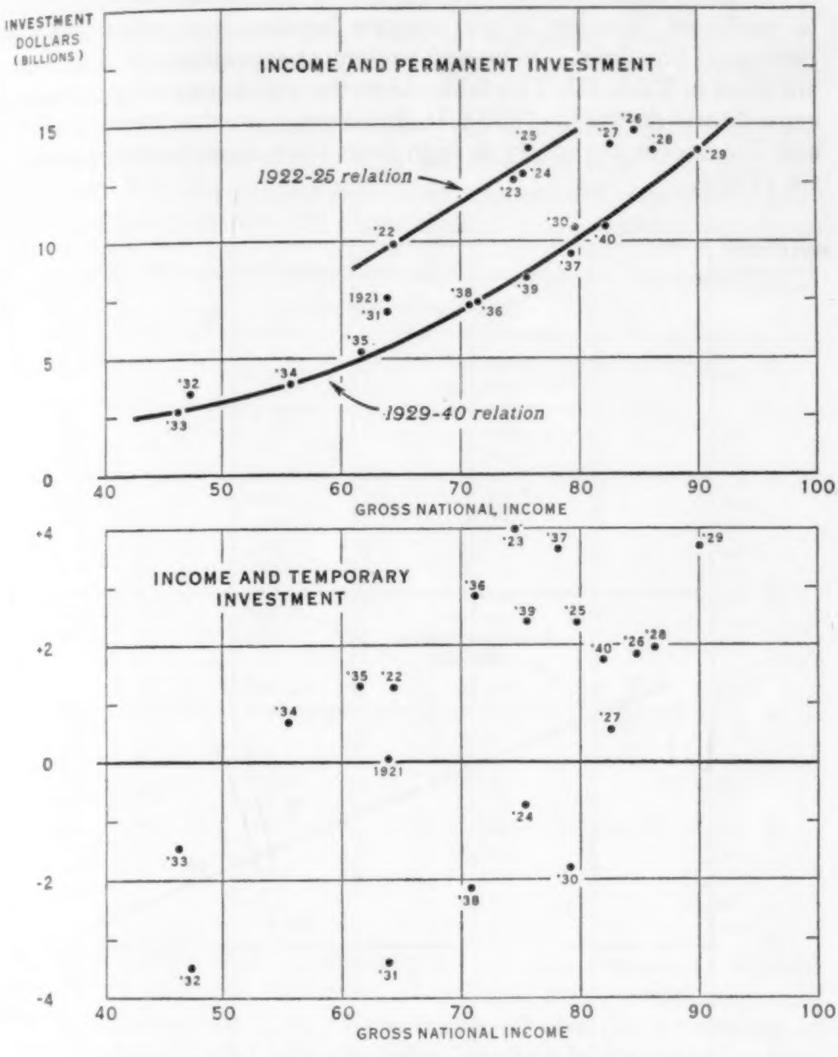

FIG. 2—Private Investment and National Income.

ward shift in the relation of investment to income. Since 1929, permanent investment has varied quite consistently with national income along the line indicated by the lower curved line drawn in free-hand in Figure 2.

This shift in the relation of permanent private investment to national income apparently occurred between 1925 and 1929, and therefore cannot be ascribed to the influence of New Deal legislation or of changes

in "business confidence" often alleged to be associated therewith. It can be explained, however, if we separate housing from other forms of permanent investment (plant and equipment expenditures). These data are given in Table III. This table shows the well-known drop in housing expenditures during the 1930's. It also shows that other items of permanent investment ran nearly as high from 1936 through 1940 as during the 1920's.

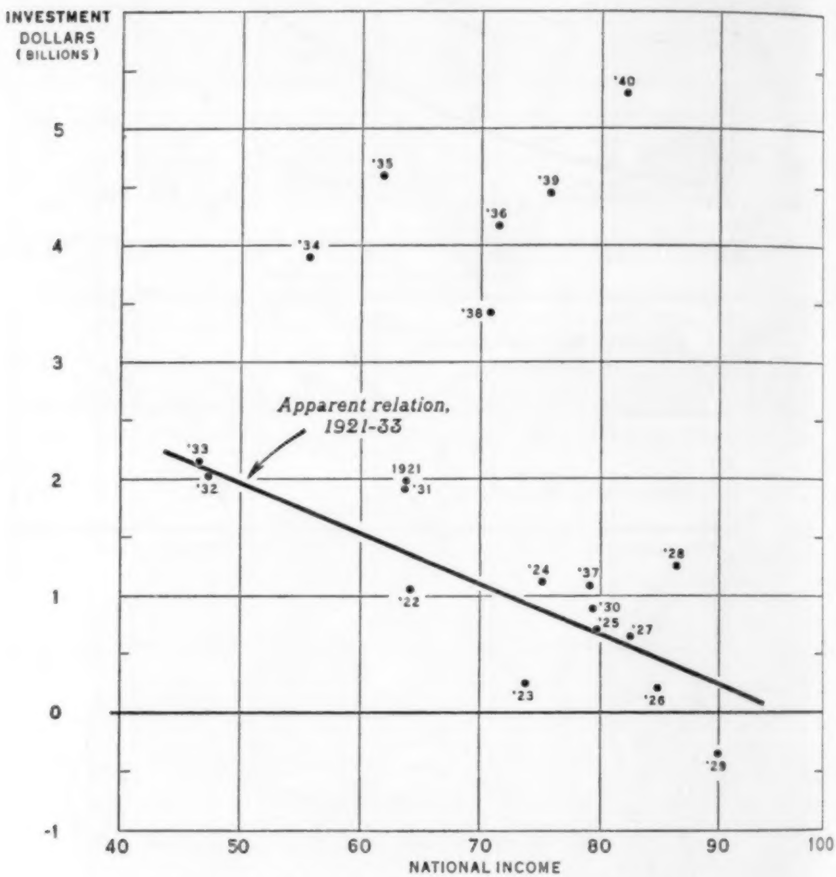

FIG. 3—Quasi-Investment and National Income.

The relation between each of these two categories of permanent investment and national income is indicated in Figure 4. There is some correlation between housing investment and national income (shown on the upper half), but the level of housing investment accompanying

the same national income was more than twice as high in the middle 1920's as it was in the 1930's. Plant and equipment investment, on the contrary (on the lower half), apparently varied closely with national income over both decades.

Plant and equipment expenditure: (a) Related to prior conditions. Economic theory has always held that business men build plant and equipment when they expect that the investment will yield them a profit, and cease building when the expectation of profit vanishes. Any statistical measurement of the conformity of fact with this theory depends upon finding objective indicators of business men's anticipations. In farming, the evidence is very clear that producers (in the absence of governmental controls) take the prices received in the preceding production period or periods as the best indicator of the prices they are likely to receive in the coming production period, and adjust their operations accordingly.[8] If the psychology of business men is similar, they might be expected to base their expectations of future profits, and hence their new investment, on the level of profit or the level of operations in the period just completed, or perhaps on the rate at which those

TABLE III—PERMANENT PRIVATE INVESTMENT SEPARATED INTO TWO COMPONENTS
(In millions of dollars)

Year	Housing	Plant and Equipment	Total
1921	2,313	5,233	7,546
1922	3,801	5,784	9,585
1923	4,821	7,902	12,723
1924	5,229	7,650	12,879
1925	5,750	8,189	13,939
1926	5,535	9,126	14,661
1927	5,357	8,777	14,134
1928	5,019	8,846	13,865
1929	3,764	10,149	13,913
1930	2,292	8,337	10,629
1931	1,734	5,122	6,856
1932	713	2,803	3,516
1933	461	2,369	2,830
1934	521	3,437	3,958
1935	918	4,352	5,270
1936	1,536	5,785	7,321
1937	1,910	7,574	9,484
1938	1,817	5,394	7,211
1939	2,270	6,141	8,411
1940	2,431	8,111	10,542

[8] Mordecai Ezekiel, *Methods of Correlation Analysis* (2nd ed.; New York, Wiley, 1941), pp. 428-29.

levels were changing. Similarly, if interest rates do have any influence on business investment decisions, business men might react to the relation of profit rate to interest rate, rather than to profit rate alone.

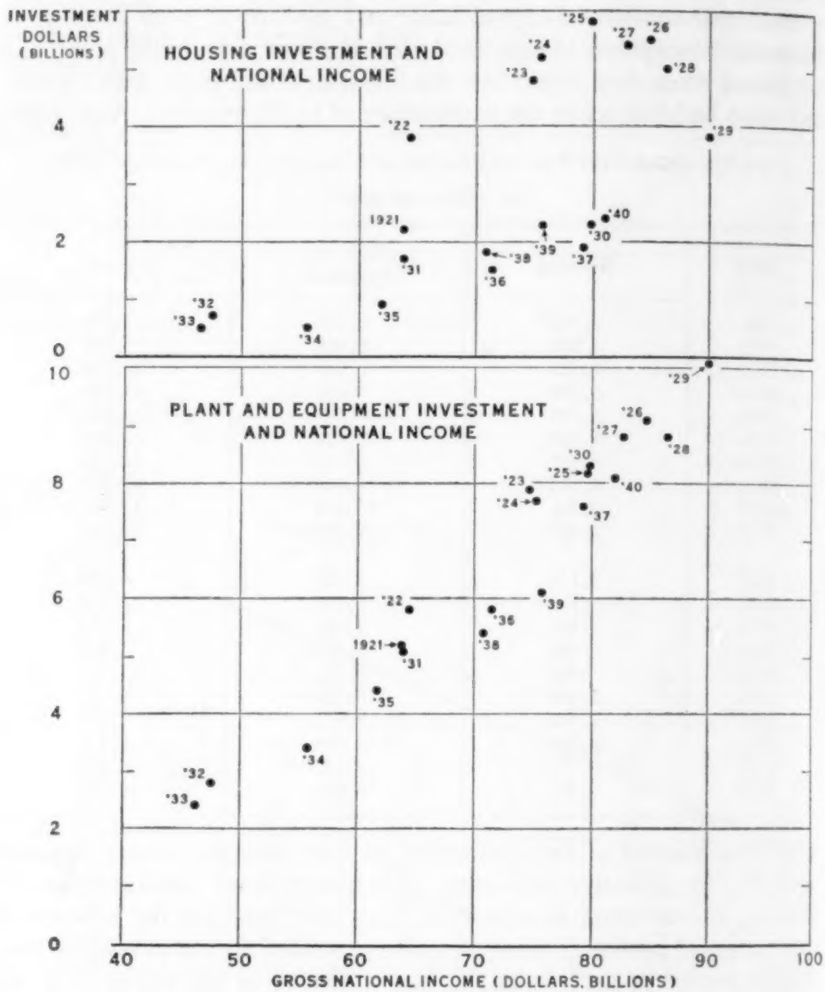

FIG. 4—Two Components of Permanent Investment and National Income.

A large number of tests were made to see if any such relation could be found between business activity or profits and subsequent investment in producers' equipment. The most significant relation discovered was that between corporate profits in one year and plant and equipment investment in the following year. About four-fifths of the variation in

investment was explained by this simple relation.[9] Profits expressed as a percentage of net worth proved less significant than total profits. Inclusion of interest rates, by expressing profit rate relative to the long-time rate of interest (as shown by corporate bond yields) did not improve the relationship significantly. This confirmed several other tests of the effect of interest rates—no significant influence of interest on investment was found in any of the tests.[10] Statistical investigations of business cycle phenomena in Britain yielded the same result, that the rate of interest has not been an important determinant of investment activity.[11]

The data indicate that current conditions as well as antecedent conditions influence business investment. Thus in some years when business activity contracted sharply during the year, as in 1930 and 1938, investment fell off by much more than would have been expected from the profits of the preceding year. When profits of both the preceding and the current year are taken into account, over nine-tenths of the variation in investment could be explained, with profits of the preceding year having a weight almost 50 per cent heavier than the profits of the current year.[12]

[9] The data on profits were the corporate profits before taxes, as given in Martin Taitel, *Profits, Productive Activities, and New Investment,* T.N.E.C. monog. no. 12 (Washington, Supt. Docs., 1941), p. 23. The correlation was $\bar{R}^2_{12} = 0.825$. There was no secular change in the relation—inclusion of a trend factor increased the correlation only to $\bar{R}^2_{1.23} = 0.827$, an increase without statistical significance.

[10] On this point, J. M. Keynes comments: "I am far from fully convinced by the recent thesis that interest rates play a small part in determining the volume of investment. It may be that other influences, such as an increase in demand, often dominate it in starting a movement. But I am quite unconvinced that low interest rates cannot play an enormous part in sustaining investment at a given figure, and when there is a movement from a higher rate to a lower rate in allowing a greater scale of investment to proceed over a very much longer period than would otherwise be possible." In conversation, Keynes has explained his point further by saying that we have never really tried what the effect would be of a very low interest rate, made available to the actual borrowers over a long period. In view of the many institutional factors which Keynes develops (*op. cit.*, pp. 194-209) to explain why actual rates to borrowers never have, and perhaps never will, fall to the very low rates he feels are desirable and necessary, the question as to what would happen if they could be held there may remain purely a theoretical problem for a long time ahead.

[11] E. A. Radice, "A Dynamic Scheme for the British Trade Cycle, 1929-37," *Econometrica,* Jan., 1939, p. 49.

[12] The relationship determined was

$$X_{1(t_0)} = 4.428 + .248X_{2(t_0)} + .332X_{2(t_{-1})} + .012T$$

where $X_{1(t_0)}$ = plant and equipment expenditures, in billions

$X_{2(t_0)}$ = corporate net profit before taxes of the current year, in billions

$X_{2(t_{-1})}$ = corporate net profit before taxes of the preceding year, in billions

T = time, in years

For the twenty years 1921-1940, the correlation was $\bar{R}^2 = .920$, and the standard error of estimate, $\bar{S} = 625$ millions.

Current business levels apparently condition or limit the extent to which prior investment decisions are carried into effect.[13] Half to two-thirds of expenditures for plant and equipment are for replacement rather than for new investment. These replacement expenditures may be even more sharply influenced by current conditions than are plant expansion programs.[14]

Plant and equipment expenditure: (b) Related to current conditions. Business investment is less closely related to current profits than it is to earlier profits. But when business investment is related to the current level of national income, a very close relation is found. (See Figure 4, lower section.) This relation is particularly close when allowance is made for the apparent downward shift evident in Figure 4. Taking both current national income and this downward trend into account, all except 1½ per cent of the variation in investment can be explained by this relation.[15] (Note Figure 5.) This high correlation by itself does not prove either that business investment *causes* national income, or that national income *causes* investment. In fact, as we have just seen, prior profits have a logical and measurable causal influence on investment. The effect of subsequent developments as a limiting factor on investment, however, is apparently very high. Current national income depends upon many factors other than business investment alone. The very high concurrent relation between income and investment indicates that this conditioning or limiting influence of current income upon business investment is a very powerful one.[16]

The downward trend in investment at given levels of current national

[13] These conclusions are confirmed by quarterly data on manufacturers' profits and investment, as given by Lowell J. Chawner, in "Capital Expenditures for Manufacturing Plant and Equipment, 1915-1940," *Survey of Current Business,* vol. xxi, March, 1941. His chart (p. 13) shows that factory capital expenditures usually start to expand *after* an upturn in net profits, but almost always begin to contract as soon as profits turn down.

[14] It would undoubtedly be profitable to make separate studies of plant and equipment expenditures for new capital goods and those for replacement of existing capital goods. This has not been attempted in the present article because of the many technical difficulties in making an accurate division between new capital goods and replacement.

[15] Figure 5 shows the net regression lines obtained by a multiple correlation analysis using the formula, Investment $= f(\text{Income}) + b(\text{Time})$. The curve and trend line were fitted by the graphic successive approximation method. The multiple curvilinear correlation was $P^2 = .985$, and the standard error of estimate 270 million dollars. The curvilinear multiple correlation was found to be significantly higher than the linear multiple correlation. The relation to the two factors explains 98 per cent of the variance in plant and equipment expenditure.

[16] The relation between national income and business investment is quite different from that between national income and total investment or saving, as measured in the preceding article. The dynamic elements present in the latter relation do not appear in the present one. The relation to business investment does not therefore seem to be in any way fortuitous or spurious.

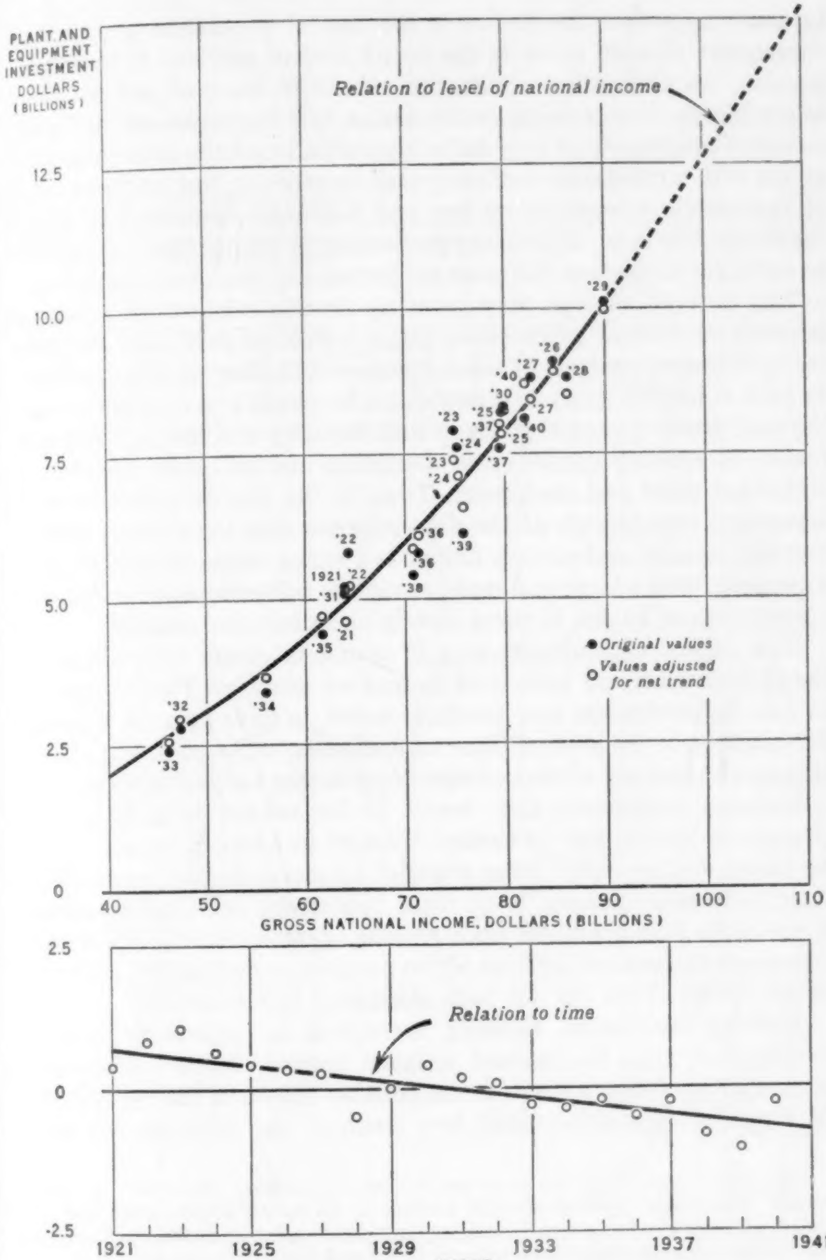

Fig. 5—Factors Related to Plant and Equipment Expenditures, 1921-40.

income may reflect the decline in the rate of population growth, with consequent slowing down in the entire rate of national industrial expansion. An alternative explanation relates to the cost and durability of machinery. Better steels, better design, and improvements in the efficiency of machine tools may make it possible to get the same productive power with a constantly declining cash investment, just as the real cost of automobile transportation has had a definite downward trend. To the extent this is so, a declining proportion of the national income may be sufficient to produce the same net increase in producers' equipment.[17]

This over-all analysis may cover up diverse relations of activity to business investment which characterize individual industries. An industry-by-industry analysis of the relations would clear up this possibility. In such a detailed analysis it might also be possible to take into account the total stock of capital goods in each industry and the degree of utilization of existing capacity, to determine the marginal efficiency of additional plant and equipment. Thus, in the electric power industry, superficial examination of the data suggests that the relation between current capacity and current output is a major factor influencing plant expansion, with a large and rapid expansion following each period when current output begins to press closely upon installed capacity.

New capital expenditures may of course originate independently of the factors which we have used in making analyses. The development of new industries and new products seems to have been an important determinant of the level of these expenditures in the past. Such factors apparently were not of major importance during the period under study.

Business investment thus seems to be related both to previous changes in profits, and to current changes in national income. As will be shown subsequently, other types of investment are dynamically related to income changes. With these concurrent and lagging relations, it would be possible to set up a realistic dynamic model which would reproduce the general patterns of the continuous fluctuations of the past twenty years. That has not been attempted in this article.[18]

Housing investment. Housing investment is apparently related to forces other than the current national income. These forces can be separated by fitting a trend to the relation shown in the upper portion of Figure 4, and determining how much of the variation can be ex-

[17] Dr. Colm suggests that the development from "competitive" investments to "administered" investments, based on scientific analysis of the market which usually takes under consideration only existing factors and not anticipated expansion in total national income and demand, has something to do with the downward trend in investment.

[18] For examples of such dynamic models, see J. Tinbergen, ***An Econometric Approach to Business-Cycle Problems*** (Paris, Hermann, 1937); and E. A. Radice, *op. cit.*

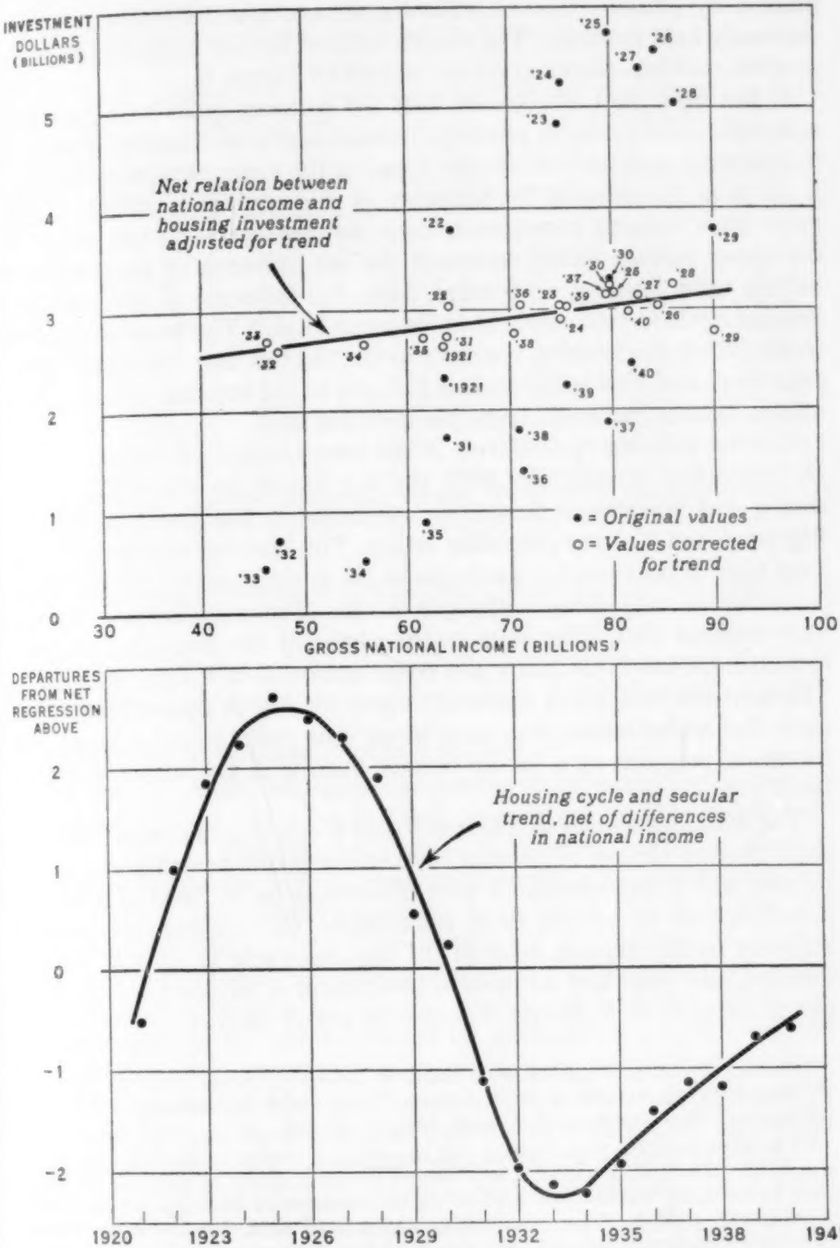

FIG. 6—Factors Associated with Housing Investment.

plained by national income while the secular trend factors are simultaneously held constant. The results secured by this analysis (made by graphic multiple correlation) are shown in Figure 6.

It has been well established that the housing cycle is in part self-generating, and operates partially independently of concurrent changes in industrial activity.[19] If the net trend in the lower portion of Figure 6 is taken as representing the influence of this semi-independent housing cycle upon housing investment, then the net regression line shown in the upper portion would represent the net influence of gross national income upon housing investment while the influence of the long-time housing cycle is held constant at its mean level.[20] The lower level of the trend during the housing recovery in the thirties may reflect the lower price level and also technological changes in the housing industry, with smaller houses and lower costs per dwelling unit.

The net housing cycle shown in the lower portion of Figure 6 offers an interesting comparison with the net trends in the levels of the saving and investment functions, as shown in the lower portions of Figures 6 and 9 of the preceding article. The housing and saving trends were high in the twenties, declining in the late twenties, very low in the early thirties, and rising in the late thirties. These similarities of movement suggest that differences in the phase of the housing cycle may influence the levels of saving and consumption as well as of investment. The way new housing is financed largely by sale to individual families upon the amortization plan may mean that purchase of a home puts increased pressure on a family to save even with no change in income level.[21]

The relations shown in Figures 5 and 6 can now be consolidated to show the net change in private investment in the twenties and in the thirties which was associated with differences in the level of gross national income. In making these calculations, the housing investment is adjusted to the average level of the housing cycle in each of the two decades, and plant and equipment investment is adjusted for the average of trend in each decade. The results are as follows:

[19] Clarence D. Lang, "Long Cycles in Building, 1865-1935," *Quart. Jour. of Econ.*, vol. liii, May, 1939, pp. 371-403. J. B. D. Derksen, "Long Cycles in Residential Building: An Explanation," *Econometrica*, vol. 8, April, 1940, pp. 97-116.

[20] The intercorrelation between time and the national income values is so high in this period that there is little statistical reliability in the measurement of these two net regressions. In preparing Figure 6, the slope of the net regression of housing investment on national income could be drawn considerably steeper with equal closeness of fit. The statistical evidence here is thus not conclusive as to how far housing investment depends on national income, and how far on independent elements of the housing cycle.

[21] Keynes's remarks about the effect of Building Societies' sinking-funds on savings are interesting in this connection. *Op. cit.*, p. 101.

TABLE A—CALCULATION OF PRIVATE PERMANENT INVESTMENT ASSOCIATED WITH VARIOUS LEVELS OF NATIONAL INCOME

(In billions of dollars)

Gross National Income	1920 Decade			1930 Decade		
	Plant and Equipment[a]	Housing[b]	Total	Plant and Equipment[a]	Housing[b]	Total
40	(2.35)[c]	(3.90)	(6.25)	1.65	1.25	2.90
50	3.45	4.05	7.50	2.75	1.40	4.15
60	4.65	4.20	8.85	3.95	1.55	5.50
65	5.45	4.28	9.73	4.75	1.63	6.38
70	6.35	4.35	10.70	5.65	1.70	7.35
80	8.25	4.50	12.75	7.55	1.85	9.40
85	9.30	4.58	13.88	(8.60)	(1.93)	(10.53)
90	10.45	4.65	15.10	(9.75)	(2.00)	(11.75)
100	(12.95)	(4.80)	(17.75)	(12.25)	(2.15)	(14.40)
110	(15.55)	(4.95)	(20.50)	(14.85)	(2.30)	(17.15)

Trend readings for plant and equipment: average 1920's = +.35; average 1930's = −.35
Trend readings for housing: average 1920's = +1.45; average 1930's = −1.20

[a] From Figure 5.

[b] From Figure 6.

[c] Data shown in parentheses represent extrapolations beyond the range of the observations on which the relations were based.

The major influence of the phase of the housing cycle upon the level of permanent investment is clearly apparent from these calculations.

Temporary Investment and National Income

The way in which temporary investment is associated with *changes* in national income has already been pointed out in connection with Figures 1 and 2. This relation can be seen more clearly by plotting temporary investment against the change in national income from that of the previous year. This comparison is shown in Figure 7. The general relation between change in gross national income and the amount of temporary investment is striking. Temporary investment itself represents merely the *changes* in the total amount of consumer credit outstanding, and in the total amount of business inventories, so this relationship is what one might expect. Apparently variations in national income are associated with parallel variations in the totals of consumer credit and business inventories, so that the first differences in the two series have the positive correlation shown. When income is rising, the rising consumer credit and inventory volumes absorb investment funds, and thus make an outlet for saving; when income is falling, consumers pay off their credit and businesses contract their inventories, and thus release funds for other uses.[22]

[22] Keynes and Salant both suggest that combining temporary investment in consumers' goods and temporary investment in working capital may combine two elements which

Figure 7 shows that in two years—1921 and 1934—temporary investment differed greatly from other years with similar changes in income levels. The year 1921 was one of low business activity as compared with 1920. The low point in industrial activity, however, occurred in the spring, and there was a strong upward movement during the balance of the year. Despite the low level of income for the year, this advancing

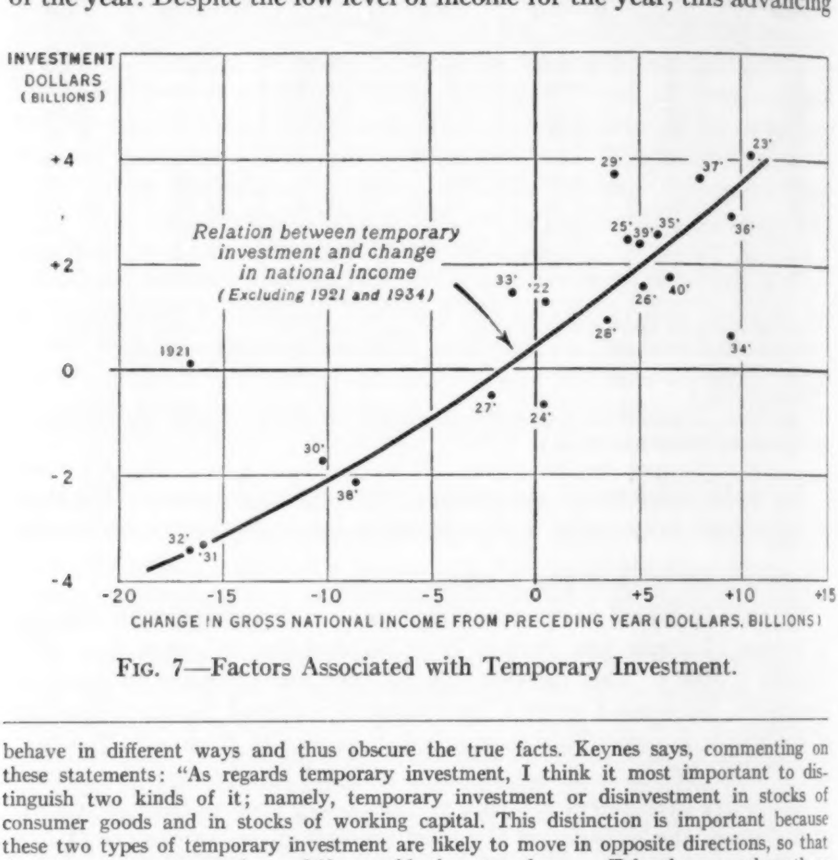

FIG. 7—Factors Associated with Temporary Investment.

behave in different ways and thus obscure the true facts. Keynes says, commenting on these statements: "As regards temporary investment, I think it most important to distinguish two kinds of it; namely, temporary investment or disinvestment in stocks of consumer goods and in stocks of working capital. This distinction is important because these two types of temporary investment are likely to move in opposite directions, so that the true movements are obscured if one adds them together. . . . Take the case where there has been an unforeseen increase in permanent investment. During the period of increase from one level of permanent investment to a higher level there will be an important increment of working capital. On the other hand, the increase in consumers' purchasing power, unaccompanied by any immediate comparably increased output of consumers' goods, will be accompanied by a reduction in stocks of consumers' goods. Similarly, in a period of incipient depression, working capital will fall off and stocks of consumers' goods will pile up. Thus you lose an important clue by adding these together. . . ." It is theoretically possible for the two elements of temporary investment to react in opposite directions. During the two decades under study, however, there were only two years in which the sign of the two series (plus or minus) was different, and in one of these the difference was an insignificant amount. It appears that during the period covered by this analysis the behavior of these two items of temporary investment was sufficiently similar to combine them for the sake of this over-all analysis. More detailed investigations might appropriately study the behavior of each of these components separately.

trend through most of the year apparently checked the negative temporary investment which might have been expected with the current reduced level of national income. In 1934 the situation was reversed, with a sharp decline in industrial production from spring to late fall. Apparently this six-month reaction offset part of the usual effect of the higher level of income on temporary investment.[23] Excluding these two years when erratic short-time movements disturbed the usual relation, a curve has been drawn in on Figure 7 showing the apparent average relation between changes in gross national income and the amount of temporary investment.[24]

The large amplitude of variation in temporary private investment is important. Figure 7 shows a usual swing in temporary investment from —3½ billion dollars in years of sharply declining activity to +3½ billions in years of rapid increase in income. This total swing of 7 billions in the amount of temporary investment compares with a difference of 6 billions in the amount of permanent investment as between a 60-billion dollar and a 90-billion level of national income, as shown in Table A for the decade of the 1920's. Excluding the changes in investment due to the phase of the housing cycle, and considering only those changes in private investment which vary with the level of national income itself, it appears that the swings in temporary investment are just as important in explaining the total amount of investment as are the proportionately less intense changes in permanent investment.[25]

Quasi-Investment and National Income

It has already been pointed out that Figure 3 shows a negative relation between quasi-investment and national income prior to 1934. This

[23] The relation between short-time changes in business activity and income and changes in temporary investment within the year could be determined more accurately by a study of quarterly or monthly data. These are available only back to 1929. The quarterly data for 1934 are consistent with the explanation offered above.

[24] It would be reasonable to expect that the willingness to make expenditures for additions to inventories, or through increases in consumers' credits, would be influenced by the total level of inventories and consumers' credits as well as by the changes in income. Thus if inventories were already high, business men might be less willing to increase them further than if they were low. No evidence to confirm this theory was found, however, on study of the annual data from this point of view.

[25] This analysis shows that the amplitude of temporary investment associated with the changes in income is of the same order of magnitude as the amplitude of permanent investment associated with the level of income. This fact may be of great importance in dealing with the problem as to whether the saving-investment phenomena are such as to produce a damped cycle in business activity or a continuously fluctuating cycle. On purely theoretical grounds Smithies came to the conclusion "the existence of a non-cyclical solution depends on either *A* or *B* being sufficiently great relative to the other for its effect always to dominate the situation." (His *A* and *B* reflect the static and the dynamic elements, respectively.) The realistic parameters from this empirical analysis suggest far-reaching theoretical implications, when joined with the theoretical expectations of his process analysis. See A. Smithies, "Process Analysis and Equilibrium Analysis," *Econometrica*, Jan., 1942, pp. 26-38.

study the behavior of each of these components separately.

negative relation apparently reflects the inflexible character of most government expenditures, at least over short periods, as compared with the immediate and automatic effects of changes in national income upon the public revenues derived from an unchanging tax structure. Net foreign balances, too, may react in somewhat the same way, since the level of our imports responds immediately to good or bad domestic business conditions, while the level of exports may not be quite so sensitive. Both of these matters require further study before definitive conclusions could be reached. Since 1933 there has been a less definite relation between the level of national income and quasi-investment. Changes in national fiscal or defense policy, rather than the impersonal effect of economic conditions, have apparently been the controlling influence in this later period. Thus 1937 and 1939, both years of about the same national income, varied by 3 billion dollars in the total of quasi-investment.

We can, however, fit a rough line to the data shown in Figure 3 for the years 1921 to 1933, and use this line as an expression of the average relation between national income and quasi-investment prior to the time that public expenditure and taxes became conscious and recognized means for government to use in influencing the levels of economic activity. This approximate regression is shown in Figure 3.

B. *The Saving-Investment Equilibrium in the 1920's and 1930's*

National Income and Corresponding Private Investment

This analysis of the three components of investment has given us, for the 1920's and 1930's, approximate measures of the amount of private investment which was associated with a given level of national income, while holding constant the other major factors related to investment —change in the level of the housing cycle, change in the level of national income itself, and quasi-investment.

Because of the major relation between *change* in national income and investment, the amount of private investment will be quite different when we consider investment at maintained or static levels of national income, or investment at changing levels of national income. Let us first calculate what private investment would have been at each of several levels of national income, on the assumption that income had remained steady at each such level for two or three years in succession. The calculations will have to be made separately for the 1920's and the 1930's, in view of the difference in the level of the housing cycle in the two periods.

If instead of making this assumption of a static level of national income, we calculated what investment would have been over a series of

TABLE B—CALCULATION OF TOTAL PRIVATE INVESTMENT AT VARIOUS STATIC LEVELS OF NATIONAL INCOME

(In billions of dollars)

Gross National Income	1920 Decade			1930 Decade		
	Permanent Investment[a]	Temporary Investment[b]	Total Private Investment	Permanent Investment[a]	Temporary Investment[b]	Total Private Investment
40	(6.25)[c]	0.5	(6.75)	(2.90)[c]	0.5	(3.40)
50	(7.50)	0.5	(8.00)	4.15	0.5	4.65
60	8.85	0.5	9.35	5.50	0.5	6.00
70	10.70	0.5	11.20	7.35	0.5	7.85
80	12.75	0.5	13.25	9.40	0.5	9.90
90	15.10	0.5	15.60	(11.75)	0.5	(12.25)
100	(17.75)	0.5	(18.25)	(14.40)	0.5	(14.90)
110	(20.50)	0.5	(21.00)	(17.15)	0.5	(17.65)

[a] From Table A.
[b] From Figure 7.
[c] Data in parentheses represent extrapolations beyond the range of the observations on which the relations were based.

years of changing income, the results would be quite different. Let us assume that income varies over a succession of years, as shown in Table C. Under the conditions of the 1920's, the associated private investment would have been as shown in Table C (see page 294).

The results in Table C illustrate how differently investment behaves when income is falling from when it is static or rising. At 80 billion dollars national income, with income declining at 10 billions a year, total private investment (in the 1920's) ran about 11 billions; at the same national income, when income was rising at the same rate, it ran about 16 billions. Comparing Table C with Table B, we see that the total private investment associated with a 70-billion level of national income with income rising at 10 billions a year is about as large as it would be at a static level of 85 billions a year.

Saving versus Private Investment

Under static conditions. We are ready now to examine hypothesis 3, on the balance between saving and investment. This involves comparing the functional relation of saving and income with the apparent functional relation of investment and income. To this point we have made rough measurements of the relations between gross national income and total saving and between national income and various types of private investment, while eliminating the influence of some of the other related factors. We have found that dynamic elements as well as static elements are present in both the relation to saving and the relation to

investment. We can compare the saving function with the apparent investment function on either a static basis or a dynamic basis. Let us first consider the static relations.

Table B shows the usual private investment which upon the basis of data for the past twenty years would accompany various static levels of national income. Let us now compare that with the usual total saving made at the same static levels of national income, according to the relations shown in Figure 6 of Part I. Since we calculated our investment

TABLE C—CALCULATION OF PRIVATE INVESTMENT AT VARIOUS DYNAMIC LEVELS OF NATIONAL INCOME, UNDER CONDITIONS OF 1920'S

(In billions of dollars)

Year in Sequence	Gross National Income	Permanent Investment[a]	Temporary Investment[b]	Total Private Investment
1	90	—	—	—
2	80	12.75	−2.10	10.65
3	70	10.70	−2.10	8.60
4	60	8.85	−2.10	6.75
5	50	7.50	−2.10	5.40
6	40	6.25	−2.10	4.15
7	50	7.50	+3.60	11.10
8	60	8.85	+3.60	12.45
9	70	10.70	+3.60	14.30
10	80	12.75	+3.60	16.35
11	90	15.10	+3.60	18.70
12	100	(17.75)[c]	(+3.60)	(21.35)
13	110	(20.50)	(+3.60)	(24.10)
14	110	(20.50)	0.5	(21.00)

[a] From Table A.
[b] From Figure 7.
[c] Extrapolations, as in previous tables.

according to the average levels for the 1920's and the 1930's, let us use the mid-points on the trend line, in 1926 and 1936, respectively, in calculating the average saving. The results are shown in Table D.

The data shown in Table D are charted in Figure 8. The upper portion of the chart, for the conditions of the 1920's, shows that a static equilibrium between saving and private investment, with no quasi-investment from public finances or from net foreign balances, would have been reached at a level of gross national income of about 70 billion dollars. In comparison with the 90 billion dollars of gross national income in 1929, this shows that even in the 1920's the point of static equilibrium between saving and private investment was materially lower than the full employment level, and that the higher average level of income in that decade was maintained only through the aid of

continuous quasi-investment, either public financing or net foreign balances from capital exports.

In the 1930's, on the contrary, the point of static equilibrium between saving and private investment alone was apparently lower than the smallest national income experienced in that decade. Within the income range experienced in the 1930's, the gap between saving and private investment became steadily wider as national income rose, increasing from about one billion dollars at a 50-billion income level to

TABLE D—PROPENSITIES TO INVEST PRIVATELY AND TO SAVE, AT VARIOUS STATIC LEVELS OF NATIONAL INCOME

(In billions of dollars)

Gross National Income	1920 Decade		1930 Decade	
	Saving[a]	Private[b] Investment	Saving[a]	Private[b] Investment
40	(4.65)[c]	(6.75)	(3.7)	(3.40)
50	(6.50)	(8.00)	5.55	4.65
60	8.65	9.35	7.7	6.00
70	11.25	11.20	10.3	7.85
80	14.15	13.25	13.2	9.90
90	17.45	15.60	(16.5)	(12.25)
100	(20.95)	(18.25)	(20.0)	(14.90)
110	(24.75)	(21.00)	(23.8)	(17.65)

[a] Readings from first curve of Figure 6, Part I (*Am. Econ. Rev.*, Vol. xxxii, March, 1942, pp. 22–49), plus trend readings from bottom curve: for 1920's, −0.25; for 1930's, −1.2.

[b] From Table B.

[c] Extrapolations, as in previous tables.

3½ billions at an 80-billion income level. Under those conditions, large net public contributions to buying power helped maintain employment and income, but any time the public expenditures were withdrawn, industrial activity and income would promptly decline. So long as the propensities to save and invest in private investment remain at the levels indicated in the lower portions of Figure 8, continued large net public expenditures (or an even more marked mercantilistic foreign trade and foreign investment policy than prevailed in the 1920's) would be necessary to maintain even a modest level of national income.[26]

Under dynamic conditions. Dynamic elements are present in both the factors related to the propensity to save and in factors related to

[26] The gap between saving and private investment is not wholly determined by saving. Instead, the amount of saving is partly determined by the existence of a gap between planned saving and planned private investment. This gap can be closed either by factors operating on the investment side or on the saving side. For instance, the dissaving resulting from business losses or from the borrowing of the unemployed may be an equilibrating factor as well as unplanned variations in temporary investment and quasi-investment.

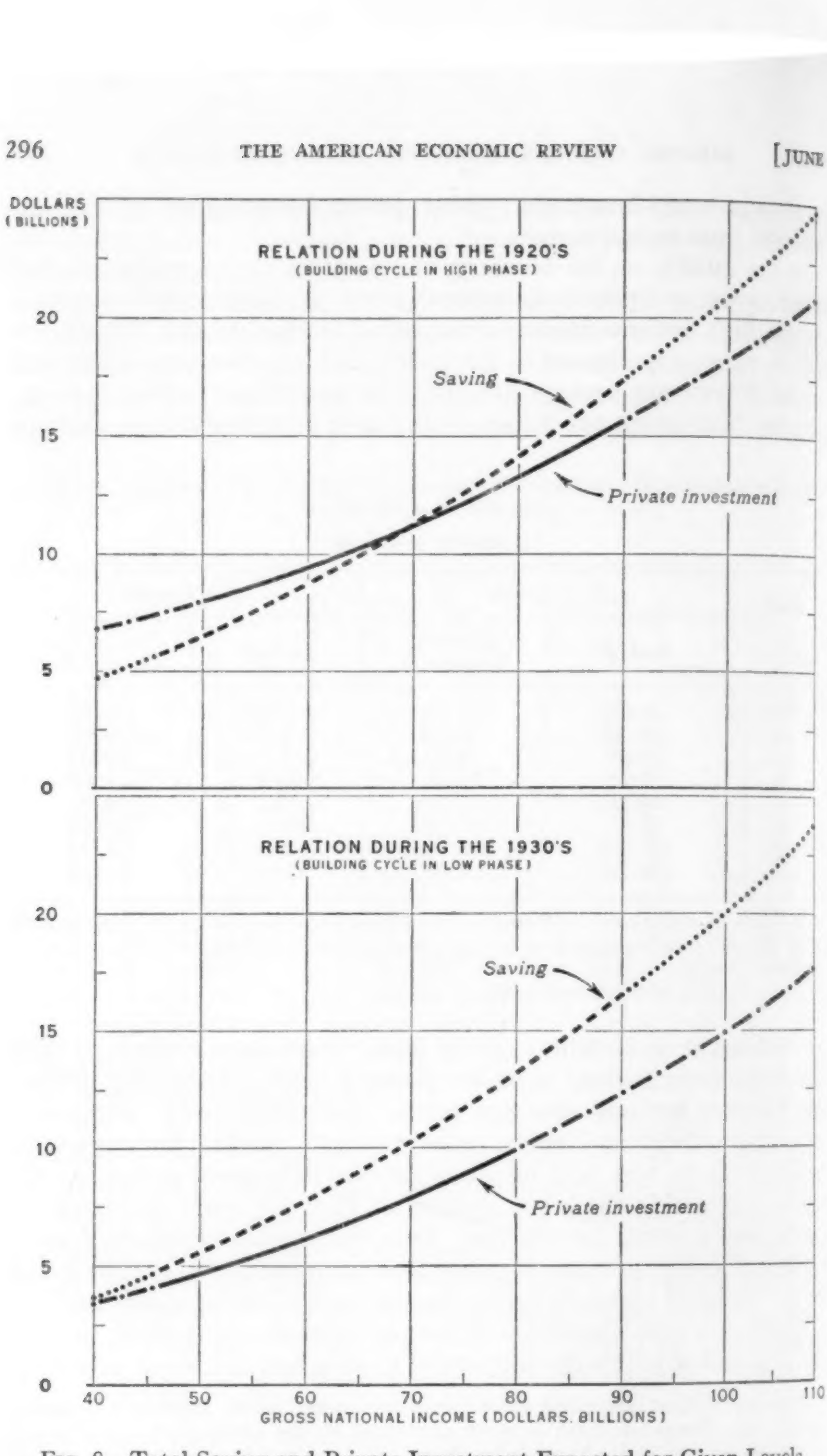

FIG. 8—Total Saving and Private Investment Expected for Given Levels of Income under Static Conditions.

the propensity to consume. On the saving side, saving rises or falls together with the extent of *change* in national income; on the investment side, temporary investment varies markedly with the changes in national income. These two dynamic elements may be compared as follows:

TABLE E—FUNCTIONAL RELATIONS OF GROSS NATIONAL INCOME TO SAVING AND PRIVATE INVESTMENT

(In billions of dollars)

Change in Gross National Income	Addition to Saving[a]	Temporary Investment[b]
−15	−3.0	−3.4
−10	−2.0	−2.1
0	0	+0.5
+5	+1.0	+2.0
+10	+2.0	+3.6

[a] From Figure 6 of Part I.
[b] From Figure 7 of this article.

These two dynamic factors tend to parallel one another.[27] This may explain why in boom periods there can be a temporary equilibrium between saving and investment at levels materially higher than could be maintained at a continuing or static equilibrium.

The dynamic relations between saving and investment can be further illustrated by comparing the two over a series of years of changing income levels, just as was done earlier for investment alone in Table C. Using the same series of changing levels of national income, the comparison is shown in Table F (see page 298).

Table F shows how widely both saving and private investment vary in a dynamic situation, and how the two tend to vary together. When the data are charted (Figure 9), this similarity of movement is again striking. As a result of the dynamic factors, private investment (under the conditions of the 1920's) could apparently about keep in balance with saving all the way up to an 85-billion dollar income on a rising level, but if income had increased above that level saving would have exceeded private investment even under dynamic conditions. Similarly,

[27] The differences between the two columns of Table E are of doubtful statistical significance. They reflect in part the fact that a straight line was used in fitting the regression to $X_{2(1-6)}$ in Figure 6 of Part I, whereas a curve was used in Figure 7. Also, the 1934 observation was excluded in the latter consideration, and not in the former. There is the possibility that both columns of Table E represent merely two measurements of the same thing—first viewed as saving, and then as investment. More detailed analyses, using quarterly or monthly data and determining the extent and degree of lags present, if any, would help to resolve these doubts.

as income fell below the 60-billion mark, saving would shrink to less than the current investment.

These relations suggest that, under the conditions of the 1920's, business cycles would be unable to carry income up above 85 billions, or down below 60 billions, without starting a reverse movement (if only private investment were present). This analysis of the dynamic factors in saving and investment may thus throw some light on why the turning points in business cycles have come where they did. In addition, there is some point at which the dynamic elements themselves

TABLE F—PROPENSITIES TO INVEST AND TO SAVE AT VARIOUS DYNAMIC LEVELS OF NATIONAL INCOME, UNDER CONDITIONS OF 1920'S

(In billions of dollars)

Year in Sequence	Gross National Income	Corresponding Level of Private Investment[a]	Corresponding Level of Saving[b]
1	90	—	—
2	80	10.65	12.15
3	70	8.60	9.25
4	60	6.75	6.65
5	50	5.40	4.50
6	40	4.15	2.65
7	50	11.10	8.50
8	60	12.45	10.65
9	70	14.30	13.25
10	80	16.35	16.15
11	90	18.70	19.45
12	(100)[c]	(21.35)	(22.95)
13	(110)	(24.10)	(26.75)
14	(110)	(21.00)	(24.75)

[a] From Table C.
[b] From Tables D and E.
[c] Extrapolations, as in previous tables.

will change. Once all the old inventories have been used up, or all the accumulated debts paid off, temporary investment cannot continue negative, no matter how rapidly business is still declining. This saturability of the change factors, as well as the relations mentioned above, may also be of importance in determining the timing of business cycle turns.[28]

[28] In this comparison it has been assumed that national income would change from year to year as shown in the first column of Table F. A dynamic model of the type suggested earlier would be necessary to determine what sequence of incomes would be most likely to occur under the conditions assumed. All that is shown here is the probable saving-investment relation *if* the assumed sequence *did* occur.

C. *Investment under Stable Economic Conditions*

Probable Investment

The relations of investment and income which have been described to this point are those which occurred during a period of continuously and widely oscillating economic activity. We attempted to infer the probable investment under static conditions from the records of that period, by removing the variations associated with change. We could not be wholly successful even then. If business men generally chose to

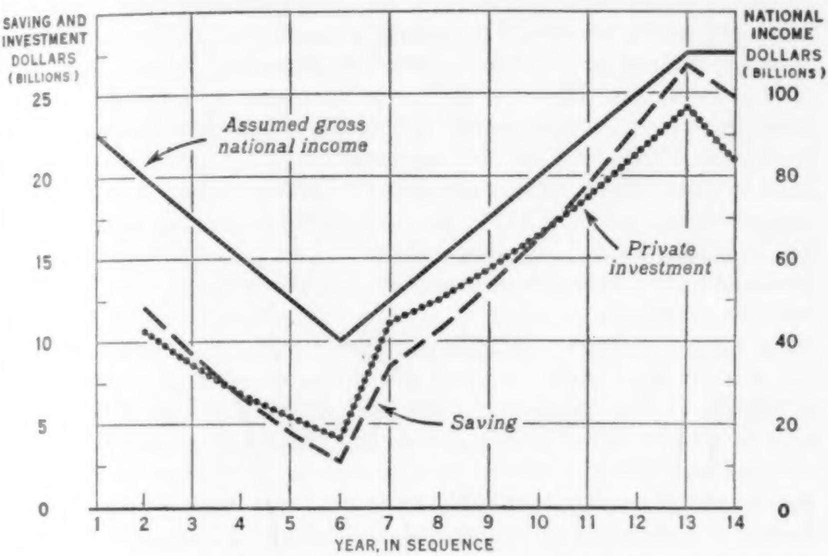

FIG. 9—Total Saving and Private Investment Expected for Given Levels of Income under Dynamic Conditions (and High Phase of Building Cycle).

under-replace depreciation when activity was low, and to over-replace when activity was high, that would still be reflected in the "static" measure of investment at high and low incomes. When we note from Table A that at 60 billion dollars income we had (in the 1920's) 4.65 billions of investment in plant and equipment, and at 90 billion dollars we had 10.45, we can see that an acceleration factor must have influenced the results. Surely it would not continuously take more than twice as much plant and equipment investment to maintain an income only 50 per cent greater.

When we look to the future, and ask what the investment-income relation would be if economic activity in the post-war world could be made more stable, we wish to estimate investment under conditions

quite different from the recurrent booms and depressions of the past. Once we are through the immediate post-war period of rebuilding and restoring the war devastation, the object of economic policy should be to maintain continuously thereafter reasonably full employment and production. That does not imply a static economy operating at unchanging levels of income, but rather a steadily progressing economy. The national income should rise steadily at the rate commensurate with both population growth and rising productivity per worker.[29]

Our analysis of investment under the widely fluctuating conditions of recent years throws little light on the question of what annual investment would be needed to sustain a steadily rising level of income. What is desired is to estimate probable investment under such more stable conditions. One approach can be made by using the average investment over the past period as a whole, rather than the year-to-year variations. From 1921 to 1940 we expanded our productive equipment from one capable of turning out about 75 billion dollars' worth of goods and services a year (in 1923) to one capable of turning out 82 billions (in 1940), in terms of current dollars.[30] If we take this average rate of progress as a reasonable estimate of probable progress during the future, we could use the ratio of average investment in plant and equipment during these two decades to average national income to estimate the normal investment required per dollar of national income. Gross expenditures for producers' plant and equipment averaged 10.2 per cent of gross national income during this twenty-year period. Assuming 110 billion dollars gross national income as the income which might represent full employment in the early post-war years,[31] this proportion indicates a probable investment of 11.2 billions as the gross plant and equipment investment needed at that income with a stably rising rate. If we assume that the housing cycle post-war will average as high as during the twenties, and extrapolate the relation shown in Figure 6, we would estimate about 5 billion dollars expenditure for housing at a 110-billion income level. (Note Table A.) Adding in the average inventory increase of 0.5 billion, and the average increase in consumers' credit of 0.3 billion, gives a total estimate of private investment (excluding foreign loans) of about 17 billion dollars a year.

The estimate based on the past two decades can be checked against

[29] Presumably real per capita income would not rise quite as fast as real productivity per hour, as some of the increased productivity would go into shorter hours and more vacations, rather than entirely into higher consumption of goods and services.

[30] Adjusting for the lower price level in the thirties, the increase in real product was much greater. In 1929 prices, the increase in productive capacities at successive peak years was from 74 billion dollars in 1923 to 90 billions in 1929, and to 97 billions in 1940.

[31] This assumes a post-war reduction in price level to about the 1935-39 average.

TABLE IV—NATIONAL INCOME, CAPITAL FORMATION, POPULATION GROWTH, AND INCREASE IN PRODUCTIVITY, 1879–1938

Period	Average Real Gross National Product, Per Consuming Unit[a]	Change in Product from Previous Period[b] X_3	Population Increase During the Decade[c] X_2	Gross Capital Formation in per cent of Gross National Product[d] X_1
	dollars	per cent	per cent	per cent
1879–88	463	—	(23.2)	—
1884–93	490	5.8	20.9	21.2
1889–98	536	9.4	18.9	21.2
1894–03	569	6.2	18.6	20.9
1899–08	633	11.2	19.1	20.4
1904–13	688	8.7	16.8	20.2
1909–18	735	6.8	14.2	20.6
1914–23	816	11.0	13.9	21.2
1919–28	951	16.5	14.2	20.2
1924–33	948	−0.3	11.1	16.6
1929–38	875	−7.7	7.2	14.6

Source of data: All except population estimates (X_2) from Kuznets, "Capital Formation, Past and Present." (Paper presented at the meeting of the American Statistical Association, held in New York, December 29, 1941.)

[a] Deflated values, as computed by Kuznets, in 1929 prices.

[b] Based on preceding column, dividing each 10-year average by the average for the decade, 5 years preceding.

[c] Population in the last year of each 10-year period compared with that for the first year (9 years earlier). *Statistical Abstract of the United States, 1940* (Washington, 1941), p. 11.

[d] Based on data in current dollars, as given by Kuznets.

the investment record over a more extended period. Kuznets's study of capital formation since 1879[32] supplies a record of capital formation and gross national product over six decades. These data provide a series of observations of the average investment required to sustain various average levels of national income under varying rates of progress, over periods long enough in each case so that the short-time acceleration and deceleration of investment due to business cycle changes has in large part been eliminated.[33] These long-period averages, shown in Table IV, are far more stable than the yearly data. The decade averages vary between 14.6 per cent and 21.2 per cent of gross national income, whereas Kuznets's corresponding annual estimates of gross capital formation (1919-35) varied between 28.1 per cent and 6.6 per

[32] Simon Kuznets, "Capital Formation, Past and Present." (Paper presented at the meeting of the American Statistical Association, held in New York, December 29, 1941.)

[33] Average investment over low and high periods may exceed that required under stably rising conditions due to unwise and wasted investment encouraged under boom conditions. There is little present basis for judging how much of an overestimate of required investment this would be likely to produce.

cent during the 1920's and 1930's.[34] Our estimate of 17 billions private investment at 110-billion national income, or 15.5 per cent of gross national income, falls near the bottom of the range shown by Kusnets's decade averages.

The proportion of gross national income devoted to gross capital formation varied considerably during different decades. In general it was highest in decades in which the population was growing most rapidly, and in which the real product per capita was expanding most rapidly. (The data for these factors also are given in Table IV). After experimentation with these and other factors, it was found that over eight-tenths of the variation in the per cent devoted to capital formation from period to period could be explained by these two factors.[35] From this relation, based on American experience over a long term of years, it is possible to make at least a rough estimate of the requirements for capital formation under future conditions, assuming various future rates of population growth and technological progress.

The estimates of population growth between 1945 and 1954 indicate a prospective population increase of 5.1 per cent during the decade.[36] If we assume that technological progress will continue in the future at the average rate it has during the past, that would give a value for

[34] Simon Kuznets, *National Income and Capital Formation, 1919-35* (New York, Nat. Bur. Econ. Research, 1937) pp. 8, 40. His annual figures on gross capital formation are used for this comparison instead of the figures of offsets to saving shown in Tables 1 to 3. Kuznets' classification differs in some respects from these investment items.

[35] In this analysis, the multiple regression equation determined was:

$X_1 = 14.093 + 0.288X_2 + .171X_3$

where

$X_1 =$ gross capital formation, for each decade, in per cent of gross national income (in current dollars)

$X_2 =$ per cent increase in population during the decade, from the middle of the first year to the middle of the tenth

$X_3 =$ per cent increase in real gross national product per capita, in the given decade over the average for the preceding period (half overlapping), as shown in Table 4.

The multiple correlation was $\overline{R}^2_{1.23} = 0.84$, and the standard error of estimate $\overline{S}_{1.23} = 0.9$. The fact that the individual observations represented decades half overlapping reduces slighty the significance of these results, as the successive observations were not completely independent. In effect, however, these 11 overlapping periods contain the record of what happened during the 12 periods of 5 years each which compose them, so there is not much exaggeration of the number of degrees of freedom involved in the analysis.

Other measures might have been employed in stating X_3, such as determining the average annual growth of real product by fitting a trend line to each 10-year period separately. This cannot be done until the income estimates are available for individual years. It is not believed, however, that the use of such refinements would change the conclusions materially.

The size of the constant in the regression equation, 14, indicates 14 per cent of the national product would be required for gross capital formation even with no change in population or productivity. This compares with about 11 per cent for depletion and depreciation estimated by Kuznets.

[36] *Population: Estimated Future Population, by Age and Sex, 1945-1980. The United States,* Series P-3, No. 15 (Washington: U. S. Dept. of Commerce, Bur. of the Census, July 23, 1941.)

X_3 of 6.8 per cent. (Since this measures the average increase in real per capita production from one 10-year period to another 10-year period beginning at the middle year of the first, or 5 years later, it is equivalent to an increase of 1.3 per cent per year. This is somewhat smaller than the long-time rate of growth in output per capita found by Carl Snyder,[37] just over 2 per cent per year.) At these rates of growth in population and in productivity, the previous experience indicates that gross capital formation of 16.7 per cent of gross national income would be required. For a level of 110-billion dollar national income, this would mean a gross capital formation of 18⅓-billions, somewhat more than the private investment of 17 billions estimated by the previous simpler method.[38]

Either of these estimates of probable investment differs materially from the estimate which could be derived from Table A. That table gives 20.5 billions as the probable investment at 110-billion income under static conditions, with the higher phase of the housing cycle. Adding on the 0.8 billions for average annual growth in consumers' credit and inventories brings it up to 21.3 billions, or considerably above the comparable estimates of 17 billions based on the average relation for the 1920's, or of 18⅓ billions based on the longer series, with an assumed somewhat higher average rate of technological expansion. It is quite clear that, if we were to apply the relation of income and investment observed under widely varying levels of income to estimate the amounts which could be privately invested under more stable but high levels of income, we would materially overestimate the probable amount.

Saving versus Investment under Stable Economic Conditions

The previous calculations may now be brought together to determine the probable gap between saving and private investment under stable conditions of full employment, on the assumption that the other institutional factors (distribution of income, tax rates, etc.) do not differ materially from those which prevailed during the past two decades.

Our previous assumptions as to a steadily rising rate of national income are equivalent[39] to an annual increase of 1.9 per cent in national income (at constant prices) which would mean an increase of 2.1 bil-

[37] Carl Snyder, *Capitalism the Creator* (New York, Macmillan, 1940), p. 415.

[38] Gross capital formation, as defined by Kuznets, differs slightly from gross private investment as calculated here. The former includes capital formation by public agencies and by export investment, but excludes all consumers' capital formation except housing. The latter excludes the first two items, but includes consumers' capital financed through net increases in consumers' credit.

[39] Population was assumed to grow at an average rate of 0.6 per cent a year, and real per capita production to rise at an average annual rate of 1.3 per cent. Real national income then must rise at an annual rate of 100.6 × 101.3, or 1.9 per cent.

lions upon reaching a 110-billion level. From the relations shown in Figure 6 of the preceding article, we estimate probable saving (say for 1945) with gross income at a 110-billion level, increasing at 2.1 billions per year, at about 23.5 to 25.5 billions of dollars.[40] This compares with a probable level of private investment, just calculated, of about 17 to 18 billions of dollars, leaving a possible gap somewhere between 5.5 and 8.5 billions of dollars.[41] Unless changes in tax structure, in industrial wage and price policy, or in other related factors, change the habits of saving or of private investment significantly from those which prevailed prior to the war, it appears that after the war average annual expenditures of about 5.5 to 8.5 billions of dollars, in public offsets to saving or in foreign investment, would be required to keep the economy running at full employment and with a steadily rising level, at the time that gross national income was crossing the 110-billion level.[42] To the extent that changes in consumption habits, tax structure, or business policies and income distribution should lower the amount of saving made at given income levels, or force an increase in the amount of investment above that hitherto required at the same income level, the average public expenditures necessary to maintain full employment would be reduced.

D. *Suggestions for Further Study*

The studies of saving and investment reported in this and the preceding paper constitute only a reconnaissance study of a very broad

[40] Assuming the trend of saving by 1945 to be at the average level shown in the lower section of Figure 6 in Part I of this article (which means refusing to extrapolate the rising trend into the future in the absence of more positive confirmation of this shift), and calculating the amount for an income of 110 billions and an annual increase of 2.1 billions, gives 25.6 as the actual estimate. (Of this 25 billions is the reading from the upper line of Figure 6 and 0.6 billion is read from the middle line, for the change in national income.) If the upper curve of Figure 6 had been extrapolated as a straight line instead of a curve, however, the estimate would have been about 23.6. In view of the considerable margin of possible error which attaches to estimates from any such extrapolation of a regression line beyond the data on which it is based, it is felt safer to give the estimate in terms of the range shown above. (For the reliability of such extrapolations, see the present author's text, *Methods of Correlation Analysis*, pp. 347-49.)

[41] In boom periods in the past, profits and upper-bracket incomes have increased out of proportion to wages and salaries. The estimated increases in saving assume that this same disproportion would prevail at high levels of national income in the future. Under conditions of high but stable production, as assumed above, it is quite probable that income would not be quite as unequally distributed as this assumes, even without any conscious modification in business price and profit policies. If that should prove to be the case, the level of saving and the size of the gap would be somewhat smaller than estimated here.

[42] This differs materially from the probable size of the gap in the years immediately after the war. Foreign rehabilitation and domestic replenishment of wartime depletion of both producers' and consumers' capital might temporarily raise investment to levels which would close the gap entirely or even threaten inflation. These estimates indicate the possible magnitude of the problem of maintaining employment after the boom of that post-war restocking is completed.

group of problems. In this preliminary exploration many problems have been encountered which it has been necessary to pass by or to subject to only superficial examination. They call for careful and exhaustive analysis, both theoretical and quantitative, before the basic relations can be fully determined. The control of business cycles and the prevention of periodic deep and sustained depressions have been among the most puzzling of all economic problems. Research in this field is important at this time as a background for post-war economic policy.

Some of the more important quantitative studies which remain to be undertaken in the field of saving and investment are:

1. Determination of the size, and study of the behavior, of separate components of savings, particularly of individual and business savings, in relation to national income.

2. Further study of the influence of financial institutions, such as commercial banks, investment trusts, and life insurance companies, upon both saving and investment.

3. Study of the distribution of income as a factor affecting saving and consumption. This requires extension of consumer expenditure studies, particularly with the purpose of determining what actually happens to expenditures when people shift from one income level to another. In addition, attempts should be made to determine what consumer expenditures and saving patterns would be under different distributions of income, assuming stable levels of income or progressively rising levels of income in response to increases in population and to rising productivity per worker.

4. Determination from the standpoint of the foregoing study of a distribution of income which would so modify the consumption and saving habits of individuals that outlets in useful investment could easily be found for the saving which would be done.

5. Studies of the probable effects of particular institutional changes upon consumption and saving habits. This includes among others consideration of the probable effects of specific changes in price, wage, and profit policies; in social security provisions; and in tax structure.

6. Analysis of factors influencing investment decisions in individual industries, including determination of the relation between investment in plant and equipment, and profits, use of capacity, and other internal and external factors.

7. Further development of a stable relation between investment and income with a steadily but gradually rising level of income rather than a widely fluctuating level, as tentatively developed in Section C of the present article.

8. Further study of the apparent private investment-income relation, developed from data for the past two decades (Figures 5 and 6 of this

article). In this connection a breakdown of investment expenditures into those for replacement and those for new investment, already suggested, would be useful.

A great many research studies dealing with various phases of the problems developed here are now being planned in connection with the work of several federal agencies in the field of post-war planning. Future students will need to develop more clearly the general relationships explored here. We must create a continuously more solid and factual basis for this important sector of economic knowledge.

E. *Conclusions*

The results of this general survey of the existing American data, in the present article and the preceding one (Part I), may now be formulated in terms of the hypotheses with which the study began. The results support the validity of the following propositions:

1. The quantity of current income withheld from consumption expenditure (saving) is functionally related both to the current level of income and to the direction and extent of change of that level, increasing as the level of income and production increases.

2. The quantity of current income spent privately for permanent capital goods under conditions of fluctuating activity has responded to previous profits, but has been conditioned by the *current level* of income, while the income spent for temporary private investment has been related to the direction and extent of *change of the level* of income (and hence to the anticipations of future returns which may be associated with those income levels and changes). No evidence could be found that reductions in interest rates stimulated investment during the period studied.

3. The phase of the housing cycle is a major factor related to the amount of investment and is at least a minor factor related to the level of the saving function. The relation of saving to private investment was materially different in the 1920's than in the 1930's, primarily due to the differences in the phase of the housing cycle.

4. Because of the functional relation of the rate of change in income to both saving and investment, the static relation of the two is different from the dynamic relation.

5. As between different static levels of national income, under the conditions of the 1920's, the increase in saving associated with a higher level of national income was larger than the increase in private investment, and the point at which the two were in static equilibrium was far below full production or full employment. Under the conditions of the 1930's, saving was higher than private investment at all levels of national income experienced, and large net additions from public expendi-

tures and foreign balances were necessary to attain an equilibrium, with the size of the gap increasing with the level of national income. Even in the 1920's, material quasi-investments were necessary to maintain the levels of income then realized.

6. With changing levels of income, both saving and private investment ran relatively large on the way up, and relatively small on the way down, with private investment tending to fall below saving as soon as the rise in income passed about 85 billions on the way up, and to remain below until national income fell to about 60 billions on the way down (under conditions of the 1920's).

7. With employment maintained at a high level, and national income rising at a steady rate, the gap between saving and investment would probably be much larger than it has been in past peacetime periods of high but transitory full employment. To maintain stable full employment in the post-war period, saving will have to be reduced or investment supplemented, to an extent averaging 5½ to 8½ billions a year, if full employment is to be maintained at a steadily rising rate around 110 billions of income.

Washington, D.C.

THE INFLATIONARY GAP

I. Meaning and Significance for Policy Making[1]

By Walter S. Salant

In economics, as in ladies' fashions, the war has created a new vogue—the "inflationary gap." Its measurement is the latest and perhaps one of the most popular of the increasing applications of statistics to questions of national economic policy. Since the phrase is now breaking into the newspapers economists are obliged, if only in self-defense, to have a clear understanding of it.

The currency of the phrase is, of course, a reflection of the enormous wartime increase in government spending and the resulting danger of serious inflation. Although the phrase is new, the idea that it represents is familiar; namely, the excess of demand over supply at a specified price, applied to total effective demand, aggregate supply, and some price level. The concept is most often used in connection with tax policy, specifically in calculations of what amounts of additional taxation are required to prevent inflation.

Instead of considering first the meaning or rather the various meanings of the term "inflationary gap" and then considering estimating procedures, it may be more instructive to reverse the order and to consider two estimating procedures first and then to compare their meanings.

All procedures involve a comparison of estimates of the potential real output of goods and services with estimated demand, based upon assumed levels of defense expenditures. In most cases some recent date is taken as a base. It is assumed that the prices of this base date are the ones to be stabilized and therefore that the gap at that date is zero. Consequently, the various supply and demand factors are expressed in terms of changes from that base.

1. The procedure used in a report soon to be published[2] compares the expansion of real output with the increase in defense expenditures (supposedly on the basis of deliveries of defense material) and obtains as a difference the necessary reduction of civilian output. It then estimates the independent change in demand for civilian output that will

[1] A paper presented in New York City on December 29, 1941, to the Econometric Society at its annual meeting.

[2] A report on the amount of taxes needed to avert inflation prepared by Carl Shoup, Milton Friedman, and Ruth Mack for the Carnegie Foundation and the Institute of Public Administration. Since the report has not yet been made public, I am deliberately refraining from describing the estimating procedure in detail and also from appraising it.

occur if no new anti-inflationary measures are adopted. This is done by considering the changes in each component of capital formation (*i.e.*, residential construction, inventory accumulation, plant and equipment expenditure, etc.) and the change in the propensity to consume separately. In order to estimate the autonomous changes in the propensity to consume and in private capital formation it is, of course, necessary to work on certain hypotheses with regard to the distribution of income, the movement of prices, and so on. As a first approximation the independent changes in the propensity to consume and in capital formation are estimated on the assumption that prices and disposable income of consumers are the same as on the base date. In estimating these changes an attempt is made to take into account the effects on demand of direct controls such as priorities and allocations and all other relevant factors. The estimated changes in the propensity to consume and in capital formation are then added to give the total estimated change in private demand for civilian goods.[3] This change in demand is then compared with the necessary change in civilian output. The difference is the amount of reduction in civilian demand that must be brought about by new measures of policy.

If it is found that defense spending will increase by 15 and physical output will increase by 8, civilian output will have to decrease by 7. If it is found further that civilian demand at the disposable income of the base date will, independently of any new policy measure, increase by 2, then steps must be taken not only to prevent this increase of demand but actually to reduce demand by 7. In other words, a total reduction of demand by 7 + 2 or 9 is required. This figure, representing the amount of reduction in civilian demand that must be brought about by special measures, is the inflationary gap according to one definition.

In computing the severity of the measures required to eliminate this gap, it is of course necessary to take into account their secondary effects. It is also necessary to consider what steps are required to fulfill the assumption on which the estimates of change in demand were based. Since the gap was computed on the assumption that disposable consumer income remained unchanged, a gap of zero would still require new measures to be taken. It would still be necessary to keep disposable consumer income the same as it was on the base date, and this would require some kind of action. Thus the quantitative amount of special measures needed would differ from the gap itself on this definition of the gap.

[3] To be strictly correct each of these two components of civilian demand should be reapproximated to take into account the estimated change in the other component. The authors of the report found this to be unnecessary in practice.

This definition of the gap measures the amount by which investment plus the propensity to consume at base date prices and base date disposable consumer incomes exceeds the investment and the propensity to consume which would be consistent with equilibrium of demand and supply. This gap does not measure the increase of investment and total consumption that would occur if no measures were taken to preserve equilibrium, for if no measures were taken the excessive investment and consumption would have secondary effects which would further increase demand. These secondary effects are not measured. This procedure tries to avoid dealing with the functional relationships which would be needed to estimate these secondary effects. For example, it does not deal with the curves of the propensity to consume. It deals with those points on the curves that correspond to the consumer disposable income of the base period. In other words, this method does not measure what would happen if equilibrium is not preserved. It simply estimates the conditions for equilibrium.

2. A second method, developed in the Office of Price Administration, attempts to work with a logically complete system of interdependent quantitative relations representing the demand for goods. In using these relations, however, an attempt is made to take into account new factors that modify them, such as priorities, allocations, rationing, inventory control, etc. Beginning with independent estimates of government expenditures and exports and using certain multiplier relations, the total expansion of national income is worked out. The estimates of government expenditure are, however, first analyzed to see what quantity of various durable goods production they imply. These estimates are in turn compared with the capacity for producing the more important durable goods in order to estimate the limitations that will have to be placed on civilian durable goods expenditure by the allocation authorities. In solving the system, the demand for these goods is not permitted to rise above these limits.

This restriction is an explicit recognition of a point often neglected in discussion of inflation: that allocations and price control limit not only the quantity of scarce goods that can be bought but also the demand for them. If firms cannot get materials required for capital expenditures they will not bid for them and the expenditures will not be made. Furthermore, if a business cannot make a capital expenditure, it is unlikely to divert the funds to any other purpose that will result in new spending and therefore no offsetting increase in demand is likely to occur. In the case of scarce consumer durable goods some diversion of expenditure is likely to occur. Allowance is made for this in the calculations: Total consumer demand is reduced by less than the reduction in demand for the scarce consumer commodities.

The solution of the system gives, simultaneously, *total* effective demand for all goods, net corporate saving, various types of tax receipts, consumer disposable income, consumer expenditure, etc.

These results are then compared with the practically attainable national product measured in the prices at which stabilization is desired. The excess of the calculated total effective demand over this practically attainable total supply represents an inflationary gap, which may be called the *total income gap*. The excess of consumer expenditure over the consumer expenditure that could be satisfied at the desired price level, which can also be obtained by this procedure, represents another inflationary gap which may be called the *consumer expenditure gap*. The calculated consumer expenditure implies a calculated consumer income after taxes. The level of consumer expenditure that can be satisfied at the desired prices of consumers' goods also implies a certain level of consumer income after taxes. The difference between this calculated and the equilibrium consumer incomes after taxes represents another inflationary gap, which may be called the *disposable consumer income gap*. There are still more inflationary gaps that could be enumerated, but further enumeration would add nothing.

All the gaps that emerge from this second procedure differ from the gap obtained in the Shoup-Friedman-Mack procedure in being total gaps; that is, they are the excess of total income (or of consumer expenditure or of disposable consumer income) after allowance is made for the secondary spending. The reduction of investment which is required to eliminate these gaps is a fraction of them. The Shoup-Friedman-Mack gap, on the other hand, might be called a primary or a saving-investment gap. It does not take account of secondary spending that would take place if it is not eliminated. It will always be less than the total income gap unless there are no secondary effects.

Still another gap is the tax gap, or the amount of taxes that would have to be raised to eliminate the gap. Within this category there are two cross-classifications.

(a) The amount of taxes required to eliminate one gap is not necessarily the same as the amount required to eliminate another. For example, the consumer expenditure gap might be eliminated by one amount of taxation while a higher amount might be required to eliminate the total expenditure gap. In other words, there are several tax gaps depending upon what excessive demand one wishes to eliminate.

(b) The amount of additional revenue required to achieve any given reduction of demand depends on the nature of the new taxation. New revenues of 2 billion dollars raised by a sales tax may be equivalent to additional revenues of 4 billion dollars raised primarily from corpora-

tions and individuals with high incomes, so far as their effect in reducing consumption is concerned. For this reason there are any number of tax gaps corresponding to each desired reduction of demand.

The relation between the many concepts of the gap can best be shown by setting up a system in which all the relevant factors are included explicitly, but I shall not here introduce a set of equations for that purpose. It is sufficient to emphasize that there are many variations of the inflationary gap and that a mere statement that some expert estimates the inflationary gap at so-and-so many billion dollars means nothing unless he specifies what concept he is using. Even that would be hard to specify until there is some standard terminology for the different variations. It will usually be necessary to examine the statistical procedure to find out for oneself. Without such an examination both agreements and serious disagreements as to the prospects for inflation may be concealed. Two experts may come out with the same figure yet one may be estimating the primary gap and the other the total gap. The former estimate may actually imply a pressure of demand two or three times the magnitude of the latter, but without examination the two will appear to agree. Let me say that this is not merely a theoretical possibility.

Analyses of the gap type appear to assume that there is a unique supply curve for output as a whole, at least with any given composition of total demand. This follows from the implication that, with given physical productive capacities, rising prices can be prevented only by restricting demand. The problem is usually stated in terms of what amount of demand is consistent with maintenance of base date prices. The answer is usually found by comparing demand with the physical potential valued at those prices. When the problem is stated and answered in this way, there is an implication that the supply curve is not only unique but is infinitely elastic at the base date prices up to the point where this potential output is produced.

To avoid such an extreme implication, a more careful statement is required. The question might be asked in this way: What increase of demand is compatible with an increase of prices not exceeding a certain desired percentage? The answer would then be found by solving for the increase which made demand equal the supply that could be produced at this maximum desired price level. If output is not infinitely elastic up to full capacity, this supply which determines the maximum permissible demand is lower than that which the economy is physically capable of producing. In other words, before the gap can be measured it is necessary to decide what expansion of output is attainable with what price increase and it is further necessary to decide what com-

promise is to be made between rising prices on the one hand and sacrifice of production on the other.

It may be argued that no sacrifice either of price stability or of output is necessary, that demand should be permitted to rise to the maximum possible output, measured in base date prices, and that those prices can be maintained by direct price controls. If price controls are necessary before maximum output is attained, the supply curve must have a finite elasticity, and if it is a unique supply curve the maintenance of base date prices by direct controls would inhibit output. It follows, therefore, that those who believe both that direct price controls are necessary and that they will not prevent the attainment of maximum output do not believe that there is a unique supply curve.

Let us turn now to the policy implications of gap analysis. It is usually applied in connection with tax policy in order to determine the desirable amount of additional taxation. Even if one accepts the assumption that price stability should be sought by restraining the growth of demand, one may measure the inflationary gap without getting any guidance whatever as to how far demand ought to be restrained by taxation. It must be remembered that increased taxation is only one of several methods of affecting demand. Its effects are distributed fairly generally over the objects of expenditures and it can be focused on particular types of goods only to a limited extent. The gap, on the other hand, does not necessarily imply a general excess of demand. The fact that it is usually derived and expressed in terms of global income and expenditure figures makes it easy to forget this fact. The gap is a summary expression reflecting a total of many separate excesses of demand over supply at the desired prices for many different commodities.

For the determination of policy it makes all the difference in the world how these separate excesses are distributed. If demand is generally excessive in terms of potential output at the desired prices for all types of goods, durable and nondurable, producers' and consumers', general measures of the income tax variety are appropriate. If the total gap is composed only of excessive demand in the durable goods field, however, and not at all in the field of nondurable consumers' goods, measures that affect primarily the demand for the latter are not particularly helpful.

The basic economic fact here is that resources are not perfectly fluid. If the output and the productive resources that satisfy consumers' demand for nondurable goods cannot be used to satisfy the excessive demand, as is the case with regard to the matériel component of defense expenditures, then no purpose is served by restricting demand for the

goods that are not scarce. Where this is the case it is far more appropriate to use measures that restrict demand for particular services, for example, allocation and rationing.

If the expert tells the policy maker only the amount of the total gap, he is not giving sufficient assistance in the formulation of policy. The very least that the policy maker ought to require of the expert is an estimate of the composition of the gap as between broad classes of output. For this purpose output should be classified according to the resources required in production. Theoretically, goods that require the same sort of resources should be in one class; other goods that cannot be produced with those resources should be in different classes. In practice some part of the resources required to make one product will almost invariably be of some use in producing some other, so no detailed classification can be perfect in practice. But a grouping into durable and nondurable goods is extremely useful. The gaps in each group should be estimated separately. Then the policy maker has some guidance as to what sectors of the economy his policies should be designed to hit. The measurement of the excess of total demand over the level desired is only a first step or a summary expression. If no breakdown of total demands and supplies is provided, the gap is merely a summary measure of the aggregate inflationary pressure. If the existence of a *total* gap is carelessly assumed to imply the existence of a *general* gap, the concept may be more dangerous than helpful.

Office of Price Administration
Washington, D.C.

II. Discussion of the Inflationary Gap[4]

By Milton Friedman

Driving along the beautiful Skyline Drive in Virginia recently, we passed Lands Run Gap, and then Compton Gap. A bit later another sign came into view. I expected it to read Inflationary Gap, but it was only Jenkins Gap. Again and again I was disappointed. Inflationary Gap never appeared. And this was entirely appropriate: Inflationary Gap is never of the past or the present; it is always in the future.

The inflationary gap is one of those *ex ante* concepts with which recent theory has made us all familiar. Double entry books always

[4] At the request of the editor, Mr. Friedman has contributed this discussion of the subject matter of Mr. Salant's paper.

balance, aside from numerical errors. Expenditures by consumers must always equal receipts of sellers. But expected expenditures by consumers during some future period need not equal the value at some specified price level of commodities and services that will be available for sale. It is this difference between expected expenditures and the value of goods expected to be available that constitutes the inflationary gap—at least, in one of its variants.

When the future has become the past, the books will still balance; expenditures will equal receipts; and the inflationary gap for that period will be no more. How does the gap between expected expenditures and expected value of goods available work itself out? How does it lead to the particular level of expenditures and receipts that is realized? Speaking loosely, how is the gap closed?

The adjective "inflationary" implies one method whereby the gap may be closed; namely, through a price rise. But this implication is in many ways misleading. The mere revaluation of the goods available for sale does not by itself close the gap; it is the redistribution of income and the change in spending-saving habits accompanying a price rise that closes the gap. And a price rise is not the only way in which the gap may be closed.

Suppose that, at some specified price level, the value of resources (including, of course, enterprise) expected to be employed in the forthcoming period is $100; that half of these are expected to be utilized, directly or indirectly, by government in producing goods that will not be available for sale, and the other half by industries producing consumer goods; that no consumer goods are available for purchase except from current production; that there are no taxes; and that all payments for resources constitute individual income (*i.e.,* in the terminology of national income, that there are no "business savings"). Under these assumptions, the aggregate income of individuals would be $100, and the aggegate value of goods available for purchase (at the assumed price level) would be $50. Suppose, further, that at the assumed price level and with an income of $100, individuals would *want* to spend $70 on consumer goods. The inflationary gap—or that variant of it designated by Mr. Salant as the primary consumer expenditure gap—would be $20.

With $70 trying to buy goods, and $50 worth of goods available, at the assumed price level, it may seem that a 40 per cent price rise would close the gap by making the aggregate value of the goods equal to $70. But if this were to happen, aggregate income would no longer be $100. If, for the moment, we assume other things unchanged, government would be spending $50, consumers would be spending $70, and

aggregate income would be $120. The increase in the price of consumer goods means an increase in payments to some resources and, hence, in their price. If government, to compete, should have to raise the price paid to comparable resources, total income would rise even more—at this stage, to $140. But with a higher price level and a higher income, consumers will want to spend more than $70. Indeed, if the aggregate spending-saving pattern were unchanged, they would want to spend 70 per cent of their unchanged real income, or $98. At the new, higher price level, then, there is a gap of $28, replacing the initial gap of $20. In short, if consumers were to insist on spending 70 per cent of income, and government were to insist on employing half the resources, the immovable object would be meeting the irresistible force.

The answer to this dilemma is, of course, that a price change does not involve merely a revaluation of goods and of incomes. Because of frictions and lags, price changes lead to a redistribution of incomes and to a change in spending-saving relationships. The initial increase in income from a price rise is likely to be concentrated in the hands of recipients of profits, a group that tends to receive fluctuating incomes and accordingly to save a disproportionately large part of any increase in income. Moreover, the receipt and spending of incomes are not simultaneous. All along the line, it takes time for recipients of higher incomes to readjust their spending patterns. Finally, competitive readjustments of resource prices take time. While employing, in some sense, half the real resources, government may not disburse half the money income. Under conditions like the present, of course, this last adjustment is likely to be concealed. The initiating impulse is arising from the government, not the private, sector. Government, in bidding away resources from the private sector, is raising the prices of resources. The share of money income it is disbursing may well be larger than the share of resources it is employing.[5] The point is that the secondary changes in the private sector make this difference less than it would otherwise be.

A price rise will close the gap, therefore, by changing the ratio of saving to spending and by changing the ratio of the value of goods available for sale to the total value of goods produced. At the end of the period, the balanced books will show a percentage of income saved exactly equal to the percentage of income disbursed in the production of goods not available for sale. In our simplified example, if we assume that government throughout disburses half the income, the balanced books will show that individuals have saved half their income.

[5] These are inexact statements, touching on the extremely troublesome problem of defining the volume of real resources in other than monetary terms.

How large a price rise will be required depends on the speed with which readjustments take place. If, for example, labor is quick in demanding and successful in obtaining higher wages when profits rise, and consumers are quick in interpreting rising prices as a forerunner of further price rises and hence in increasing their expenditures, a very large price rise may be required, and conversely. The same primary gap may, therefore, be associated with a wide range of price changes.

Even in the absence of direct government intervention, a price rise and the attendant redistribution of income is not the only way in which the gap might be closed. For example, to take a highly unreal extreme, sellers of consumers' goods might simply refuse to raise prices despite the high level of demand, permitting, instead, their shelves to empty and bare-shelves rationing to replace price rationing. Consumers would then be forced to save $20 more than they wanted to. This type of behavior by sellers would, in practice, be rare; but to whatever extent it occurred it would help to close the gap.

Again, aside from the increase in savings as a result of the redistribution of income, savings might increase because of a "buyers' strike"—unable to obtain the desired goods at accustomed prices, buyers might simply refuse to purchase at higher prices. This type of behavior is contrary to experience, which reveals a higher percentage of income spent on consumption goods, the lower the real income. But it is not entirely inconceivable under wartime conditions and psychology.

Finally, the gap might be closed by changes arbitrarily ruled out in our simplified example. As Mr. Salant quite properly points out, aggregate output—at least "economic" output—is not unique. A price rise might mean a larger output than the $100 assumed in our example, and hence more goods available for sale. And goods can be made available for sale not only from current production but also from capital. Such an increase in goods sold does not increase *incomes;* it merely substitutes one form of asset for another—money for goods.

Under these conditions, it may well be asked what significance can be attached to the number describing the primary expenditure gap—in our example, $20. The primary expenditure gap—the concept most frequently used in measurements of *the* gap—is significant in only two ways: (1) It measures the amount by which the estimate of voluntary savings at the assumed income level would have to be in error in order that the gap should be the product of statistical error rather than of economic reality. If the statistician had underestimated voluntary saving by $20, there would in reality be no gap. (2) It measures the task of one of the many public policies that might be used to close the gap; namely, a campaign to stimulate "voluntary" savings. In terms of our

example, such a policy, in order to succeed, would have to induce consumers with an income of $100 to save $20 more than they would want to save in the absence of such a campaign.

The $20 that measures the primary expenditure gap does not, as is often mistakenly supposed, measure the amount that would have to be raised in taxes to close the gap. If, in our example, $20 were withdrawn in taxes, consumers would have available $80 for saving and spending—at the assumed price level. Out of $80 of income, they would presumably want to spend less than $70 but more than $50, since a reduction in income ordinarily reduces both saving and spending. In order to eliminate the gap, enough would have to be withdrawn in taxes to reduce disposable income to a level at which consumers would want to spend $50. This would clearly require more than $20, how much more depending not only on saving-spending habits but also, as Mr. Salant has pointed out, on the kinds of taxes imposed.

An analysis directed toward policy should not, therefore, stop with an estimate of the primary expenditure gap. It should take as its function the evaluation of the quantitative aspects of the alternative measures that might be taken to close the gap. Such an evaluation is essential to an intelligent choice among measures or an intelligent combination of measures. It is not enough to list the various measures that might be taken: direct stimulation of savings; reduction of consumer income through taxation or compulsory savings; indirect stimulation of savings by rationing some goods and thereby narrowing the range of goods freely available for purchase, or by imposing restrictions on consumer credit; rationing of over-all purchasing power; reduction of expenditures by industry on non-war capital formation, and by state, local, and federal governments on non-war activities; prevention of wage rises; elimination of overtime payments; etc. There is needed, in addition, quantitative estimates of the contribution that would be made by each possible variant of each measure, and by combinations of different measures. The ideal would be a series of indifference surfaces, so to speak; *i.e.*, a list of the alternative combinations of policies that would serve to close gaps, however defined, of alternative sizes.

The analyses that have so far been made fall far short of this ideal. In the main they have been directed at measuring either the primary expenditure gap—the measure appropriate for a policy of direct stimulation of savings; or the tax gap—the measure appropriate for a policy of reducing consumers' disposable incomes through taxation. True, these studies have attempted to take into account the effect of other policies, in so far as these policies could be foreseen. But only to a minor extent have they attempted to state the consequences of extensions of the other policies—to say, for example, that this and this ex-

tension of rationing would change the amount of taxes needed by this and this amount.

Mr. Salant stresses the importance of a somewhat different elaboration of the estimates—a breakdown of the gap among broad classes of output. He considers such a breakdown vital for policy purposes because, in his view, "general measures of the income tax variety are appropriate" primarily "if demand is generally excessive in terms of potential output at the desired prices." This apparently innocent statement conceals a joker—"at the desired prices." The composition of the gap is determinate only at specified relative prices for different classes of goods.[6] It can be anything at all if relative prices are permitted to vary. Mr. Salant's policy conclusion is valid only if (1) stabilization of particular prices as well as of the general level of prices is desired, or (2) relative prices are generally and necessarily rigid. Neither point seems to me to be acceptable. General measures of the income tax variety seem appropriate under almost any circumstances—certainly any that are at all probable in the United States. The price system seems the least undesirable method of allocating the limited resources that will be available for the production of civilian goods. If they could be constructed, breakdowns of the type suggested by Mr. Salant would be desirable under alternative relative prices, not for determining basic policy, but rather for estimating the relative price changes that would be likely to occur.

The present state of gap analysis is unsatisfactory not only because it does not go far enough, but also because the estimates that are made are subject to such wide margins of error. At the present stage of our knowledge of the functioning of the economic system, estimating the gap is a presumptuous undertaking. One of the main by-products of attempting to do so is a keener realization of how little we know about the quantitative interrelationships of the economic system, and how much there is to know. To estimate the gap, and the consequences that will flow from it, requires precise and quantitative knowledge of the process of economic change—of how impulses are transmitted throughout the economic system, of lags in adjustment, technical possibilities, and human reactions.

Useful estimates are possible at all only because of the special circumstances of the moment. The necessities of war require an ever-increasing stream of expenditures whose desirability is unquestioned. These expenditures constitute the dominant factor making for expan-

[6] It should be noted that the aggregate amount consumers will want to spend out of a given income may also be affected by the relative prices of different classes of goods even if the general level of prices is, in some sense, fixed. But this effect would presumably be of secondary importance.

sion of money incomes. The direction of the change in expenditures is known: so long as war continues, expenditures will increase and not diminish. The magnitude of the change can be forecast with reasonable accuracy for short periods. Many factors that would be important to the estimator in ordinary times have no independent influence in wartime. For example, non-war capital formation is subject to direct control and is determined by availability of materials rather than profit possibilities. The factors that determine capital formation in peacetime can be almost entirely neglected and attention concentrated on productive potentialities. Finally, possible discrepancies between the amount consumers want to spend and the value, at specified prices, of the goods available for purchase are so large that even substantial errors of estimate will not alter major policy implications.

The development of methods for estimating the gap and the apparent usefulness of the resulting estimates for public policy during wartime have led many to suppose that a new technique has been developed for guiding public policy in peacetime. As the preceding paragraph indicates, this is an illusion. Gap analysis has added nothing to our understanding of economic change. We know no more now about how the business cycle runs its course than we did before. The special circumstances of a war period make it possible to use this imperfect knowledge to construct quantitative estimates that are useful for policy purposes. When these special circumstances have passed, the problems that plagued us before will plague us again.

Washington, D.C.

THE MEASUREMENT OF STATISTICAL COST FUNCTIONS: AN APPRAISAL OF SOME RECENT CONTRIBUTIONS[1]

By HANS STAEHLE

"When you cannot measure, your knowledge is of a meager and unsatisfactory kind." This famous statement of Lord Kelvin's may be paraphrased to the effect that, whenever attempts at measurement of previously unmeasured quantities and relationships are made, understanding and knowledge, if only of the complexities of the subject, are certain to be furthered. I shall pass in review, and appraise, a recent newcomer in the long series of efforts at quantification in economics, the literature on statistical cost functions.

The subject invites comparison with a closely associated development, the measurement of demand functions. From Gregory King to Marschak's most recent contribution, the process has been one of ever closer interpenetration of facts and theory. It is typical, for instance, that even to Marshall, aware though he was of the influence of factors other than price, elasticity of demand exclusively meant elasticity with respect to price, all other factors expressing their influence through either shifts or distortions in that price-quantity function. Marshall never used the concept of income-elasticity of demand. It was for H. L. Moore, the econometrician, to develop the idea of generalized partial elasticity coefficients of demand. As to the particular dependence of demand upon income and its elasticity, a relatively recent, and essentially measurement-inspired addition to the economist's toolbox, its possibilities for the further development of theoretical reasoning have already been exploited by Bowley and Allen, and have certainly contributed to shape Hicks's ideas. In other words, Marshall, the theorist, could afford to be content with stating *the* "law of demand" *ceteris paribus*. But attempts at measurement very soon made it necessary to find out what exactly the more important ones among the "other things" really were. For measurement of the price-quantity function is possible only if the influence of the *cetera* is successfully eliminated, and in order to eliminate we must know *what* and *how much*. The devices invented for the purpose of isolating what to Marshall was *the* law of demand have in turn proved stimulating to reasoning of a purely theoretical kind.

Later I shall examine whether a similar development can be expected

[1] A paper presented at a joint meeting of the American Economic Association and the Econometric Society, held in New York, December 29, 1941.

in consequence of past and present endeavors in the field of cost measurements.

Similar in this respect to the theory of consumers' choices, the theory of short-run producers' behavior proceeds on the basis of a simple postulate of rationality. As Cournot put it in 1838, "the producer [he was speaking of a monopolist] will always stop [expanding his output] when the increase in expense exceeds the increase in receipts"; or, as we would say today, when marginal cost (increasing or constant) equals marginal revenue (constant or decreasing). Cournot then goes on to say that he will scarcely have occasion to consider directly the total-cost function, but only its derivative, *i.e.*, marginal costs, the shape of which exercises the largest influence upon the solution of the principal problems of the science of economics.[2]

It is not idle to quote these remarks, not only because it never *can* be idle to read and quote Cournot; they also directly apply to all the statistical work which has been done in our field. Although each one of the authors finds it necessary to start out by measuring the total-cost function, all their work aims in the end at determining short-run marginal costs as a function of output. All these studies, in other words, by endeavoring to find a numerical expression for the function connecting marginal costs with output, are in fact, if not in intention, attempting to throw light upon the rationality of entrepreneurs' behavior. It would indeed be difficult to see why, if not for that reason, the measurements are undertaken.

In reviewing the literature on the subject I cannot hope to be complete. I shall therefore first list what appear to be the main contributions, and then briefly consider what methods were used to construct the relationship between output and costs; what concrete results have been reached, and what significance these results possess in relation to (1) the goal of the measurement itself, (2) business practice, and (3) cost theory. In a final section I shall try to speculate as to future possibilities.

I

Every field has its pioneers. With due reservation regarding the probability that Professor Viner will soon discover, if he has not already done so, a still earlier contribution, I wish to discuss as the first item in my list a brief article by an Austrian writer, Wilhelm von Nördling, on "Le Prix de Revient des Transports par Chemin de Fer" (Cost of Production of Transportation by Railroad").[3] That article

[2] A. Cournot, *Principes Mathématiques de la Théorie des Richesses* (Paris, 1838), p. 65; Bacon's translation, p. 59.

[3] Published in the *Annales des Ponts et Chaussées* for 1886 (1er sémestre), pp. 292-303.

must not be considered as a *curiosum* only. Its scientific value, even for the present day, will become apparent in the summary that I shall give of it later. May I merely mention that I found it quoted in an important lecture delivered by Emile Cheysson, the well-known French social reformer and pupil of Le Play, under the title of *La Statistique Géométrique, Méthode pour la Solution des Problèmes Commerciaux et Industriels* ("Geometrical Statistics, A Method for the Solution of Commercial and Industrial Problems")[4] in which Cheysson not only evolves a scientific program which sounds very much like Frisch's introductory address at the first meeting of the Econometric Society at Lausanne in 1931,[5] but also attempts to determine the Cournot point in a concrete statistical case. It is of interest to note that, in the article devoted to Cheysson in the *Encyclopaedia of the Social Sciences*[6] it is said that he "contributed nothing new to sociology or economics."

My second item is a contribution by Ehrke and Schneider published in 1933, in the former's book on *Overproduction in the Cement Industry.*[7]

I shall further consider the studies by Yntema,[8] and Ezekiel and Wylie,[9] on the United States Steel Corporation, both published in 1940, and, of course, Dean's various studies, the first of which appeared in 1936.[10]

I shall have no time to consider the various studies dealing with farm management problems,[11] nor the so-called break-even charts de-

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In the *Annales*, the author's name is, with typically French neglect for "umlaut," given as "W. Nordling, ancien directeur général des chemins de fer au Ministère du Commerce à Vienne." There is no doubt, however, that W. Nordling is identical with Wilhelm von Nördling, k.k. Sectionschef und General-Director des österr. Eisenbahnwesens a.D., who in 1885 published a book *Die Selbstkosten des Eisenbahn-Transportes und die Wasserstrassen-Frage in Frankreich, Preussen und Oesterreich,* Vienna. This book, though full of statistical data, contains no study of cost functions.

[4] Paris, Publications du Journal Le Génie Civil, 1887.

[5] *Econometrica,* vol. 1, no. 1, pp. 74-76.

[6] Vol. 3, p. 371.

[7] Kurt Ehrke, *Die Uebererzeugung in der Zementindustrie von 1858-1913* (Jena, 1933), especially pp. 276-310.

[8] United States Steel Corporation, *T.N.E.C. Papers,* vol. I, pp. 223-302, also printed in Hearings before the Temporary National Economic Committee, Pt. 26, *Iron and Steel Industry,* pp. 14032-82.

[9] Kathryn H. Wylie and Mordecai Ezekiel, "The Cost Curve for Steel Production," *Jour. of Pol. Econ.,* vol. XLVIII, Dec., 1940, pp. 777-821. See also by the same authors "Cost Functions for the Steel Industry," *Jour. Am. Stat. Assoc.,* vol. 36, March, 1941, pp. 91-99.

[10] Joel Dean, *Statistical Determination of Costs, With Special Reference to Marginal Costs* (Chicago, 1936); and *Statistical Cost Functions of a Hosiery Mill* (Chicago, 1941); and *The Relation of Cost to Output for a Leather Belt Shop* (New York, Nat. Bur. Econ. Research, 1941). See also *Am. Econ. Rev.* Suppl. vol. XXX, March, 1940, pp. 400-03.

[11] See, *e.g.,* the studies quoted by E. H. Phelps Brown, *Econometrica,* vol. 4, pp. 123-37.

veloped by, *e.g.*, Bolza[12] and Rautenstrauch,[13] nor finally the important work of Schmalenbach[14] and his school.[15] I also shall have to omit consideration of one attempt to measure a long-run cost curve (or envelope function) which Dean has produced but not yet published.

II

Granting these limitations of the subject, the great similarity in the problems encountered by the various authors, and in the methods they chose to solve them, suggests something of a necessity inherent in their task.

It is the aim of each one of these writers to isolate, from among the many factors that influence costs, the *net* influence of changes in the rate of output. In order to do this, each one attacks the problem by studying total costs, though they all are also, if not mainly, interested in marginal costs. Each one (with the exception of Ezekiel-Wylie and Ehrke-Schneider) runs up against the problem of measuring the volume of a diversified output. Each one has to face the problem of "technological change," and of possible change in the size of equipment, as one of the major factors to be eliminated. Finally, each one is compelled to consider the separation of costs which are not in the most immediate sense direct ones into those which depend on the lapse of time, and those which depend on utilization.

Von Nördling definitely sets out to obtain the relationship between costs and output when equipment is given. He carefully points out that what matters is not average cost, but only "the increment in expenditure necessary to transport one ton-kilometre *more* or, which amounts to the same thing, the saving that would be consequent upon the transportation of one ton-kilometre *less*." "Interest on invested capital," he goes on to say, "will not be part of costs thus understood, for interest is a permanent, invariable charge, independent of tonnage." He is aware of the problem involved in measuring output, consisting as it does of both passenger and merchandise traffic, and he adopts, after detailed justification, the convention of giving equal weight to a ton-kilometre of merchandise and a passenger-kilometre. Among the reasons for the adoption of this weighting system are considerations of the relative variable costs per unit. He then chooses from among the various railway systems existing in Austria at that time those for

[12] Hans Bolza, "Kostenstudien mit Erfahrungszahlen aus der Praxis," *Nordisk Tidsskrift for Teknisk Økonomi*, June, 1937, pp. 97-109.

[13] Walter Rautenstrauch, *The Economics of Business Enterprise* (New York, 1939), pp. 303-09.

[14] E. Schmalenbach, *Selbstkostenrechnung und Preispolitik* (Leipzig, 1934).

[15] Reinhard Hildebrandt, Herbert Peiser, and others.

which in at least two, not necessarily consecutive, years the length of line operated remained as nearly constant as possible while at the same time large variations in the volume of transportation occurred;[16] and from the cost information available for the years thus chosen he then determines the total number of ton-kilometres supplied during the year (x) and the total variable costs (*i.e.*, other than interest on bonds) (y) per kilometre operated. He shows himself surprised and delighted—and both these emotions are fully justified—to find that these points, though relating to various different enterprises, when plotted in a single graph, very closely approximated a continuous function, showing when extrapolated a small intercept with the cost axis, and a constantly decreasing slope. He correctly identifies the slope of the radius vector as average cost per unit (y/x), and the slope of the tangent to his function as marginal cost (dy/dx). And then he does something very surprising: he writes the ratio of marginal and average cost thus: $\frac{x}{y}\frac{dy}{dx}$

Though unwittingly, von Nördling thus seems to be the first man to have printed the celebrated elasticity formula. For although Marshall found it on a Palermo hotel roof in 1881,[17] he did not publish it until 1890, in the first edition of the *Principles*. As to von Nördling, he merely uses it to study the fluctuation of the ratio of marginal to average costs over the observed range of output (where he finds it to be consistently less than unity) and to predict that it would increase to unity if observations for larger output rates were available.

This brief summary of von Nördling's article is far from exhausting all that is of interest in it. But it is sufficient to show that his results are far from negligible, that he saw and successfully solved each one of the major problems above listed, and that in at least one important respect he went beyond what has since been done in this field: he attempted a comparison of cost conditions in firms belonging to the same industry, a suggestion which seems full of promise, as I shall mention in my concluding section.[18]

It is now necessary to pass to a brief consideration of later con-

[16] Compare this to Dean's *Leather Belt Shop* study, p. 11: "The period . . . was chosen because it fulfilled the following conditions most satisfactorily: (1) The rate of output and other measurable cost determinants varied sufficiently to yield observations over a wide range. . . . (3) The plant and equipment remained unchanged during the analysis period, permitting the observation of short-run adjustments uninfluenced by long-run changes. . . ."

[17] A. C. Pigou, ed., *Memorials of Alfred Marshall* (London, 1925), p. 45.

[18] The only other attempt in this direction, though seriously imperfect in other respects, is a hitherto unpublished paper by Ernest M. Doblin who investigated costs in different steel companies.

tributions. A detailed description, however, seems unnecessary, since the relevant publications are easily available and I therefore assume that they are known.

The common basic material seems to consist of data taken from the accounting records either as published, or directly. In some cases, adjustments were made to redistribute depreciation charges in what seemed to be a more rational way. Efforts were also made to ensure that costs and output data related to the same unit period. Finally, wherever possible and necessary, the cost data were corrected for changes in factor prices, a practice on which I shall make some comments later. All this, however, though obviously of great consequence for the results, is neither very startling nor very interesting. I have nothing worthy of mention to offer in these respects and had better refer for a thorough treatment of some of them to a recent article by C. Reinold Noyes.[19] The two real *problems* in all this seem to be the measurement of output when production is diversified, and the elimination of technological change, and/or of changing size of the firm when that sort of thing occurs.

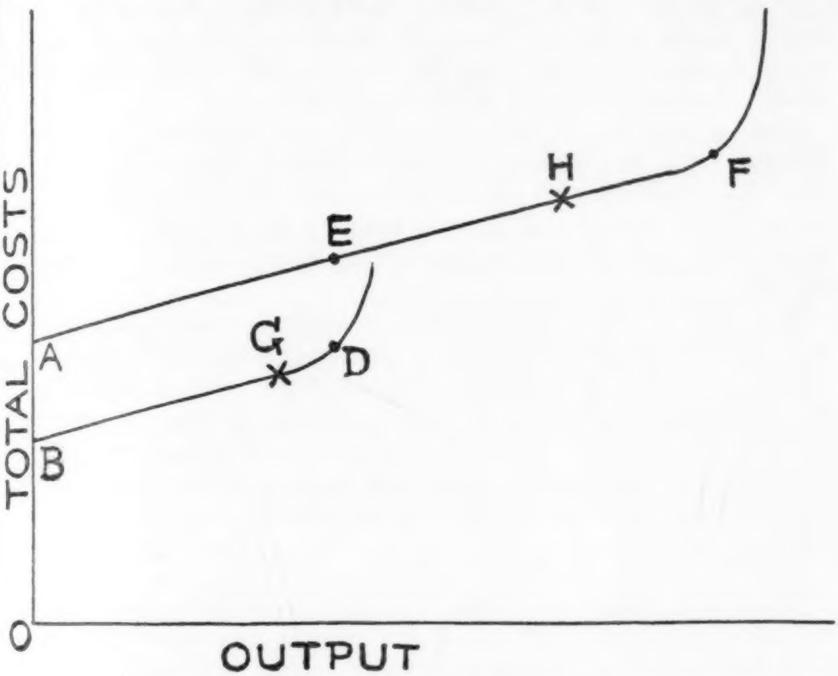
First, as regards measuring output (a problem absent in Ehrke-Schneider's case, but present everywhere else), the tendency often is toward solving it by weighting the quantity ratios relating to the various commodities by the relative direct, or variable, costs to which they respectively give rise. This practice seems highly objectionable, though it is difficult to see what other solution could be suggested. It indeed amounts to determining output by costs, *i.e.,* to introducing a spurious dependence where measurement of an independent relationship is really wanted. Nor could that problem easily be solved, as far as I can see, by any sort of correlation set-up.

Secondly, concerning technological change, the difficulties are truly insurmountable. There comes into being, of course, a new cost, if not a new production function, whenever such change occurs, and no amount of assuming, or fitting of trends to residuals will really do. Yntema has attempted the latter, and, without now going into a detailed criticism of his procedure, I merely wish to announce the appearance in a forthcoming number of the *Review of Economic Statistics* of a very thorough appraisal of both this and other aspects of Yntema's study by Caleb Smith.

Similarly embarrassing is the problem of changes in the size of the firm. Yntema, as well as Ezekiel-Wylie, did not do much, if anything,

[19] "Certain Problems in the Empirical Study of Costs," *Am. Econ. Rev.*, vol. XXXI, Sept., 1941, pp. 473-92. The same study also appeared as a "Memorandum on Costs in Relation to Output" as an appendix to Joel Dean's study of a leather belt shop, above quoted.

about it. And yet it is important. For, even though technique may remain constant, Schneider's "law of harmony"[20] will apply. That law states that full harmony in the structure of the enterprise only exists if an increase in fixed costs produces no more than a proportional increase in the rate of output possible without running into increasing average costs. Or, in other words, minimum average costs may still be lowered, given marginal costs, as long as full harmony is not realized. Graphically, if in the adjoining diagram AB/BO < EF/BD, where



BD = AE, harmony has not been reached. Yntema, to the extent that he failed to take account of variations in the size of U. S. Steel during his period of observation, thus obviously runs the risk of overstating his marginal costs. Whether U. S. Steel during the relevant years was increasing or decreasing, Yntema's results may well be of the nature of points G and H in the graph.

As to Ezekiel-Wylie, they mostly have used percentage of capacity as the independent variable. But though satisfactory in that it *seems* to settle everything, this device is very doubtful, in the light of Ter-

[20] See Ehrke, *loc. cit.*, where Schneider (p. 290, footnote) attributes the first formulation of this law to Ivar Jantzen. A German translation of the most relevant parts of Jantzen's original article is available in Erich Schneider, *Theorie der Produktion* (Vienna, 1934), pp. 83-92.

borgh's excellent remarks[21] on the measurement of capacity even in ordinary plants. His reasons apply *a fortiori* to U. S. Steel. Moreover, the device does not do away with the point mentioned in the previous paragraph.

Most other authors solve this problem by carefully avoiding it, *i.e.*, by choosing their firms and periods such that both technological change and variations in size are absent, which indeed also is a solution, though not a very satisfying one.

I may conclude this very sketchy review by mentioning the very high quality of the statistical work done by Dean. This, however, by no means exempts his results from the criticism which I shall later direct against the significance of all these studies.

Now as regards the results, I already mentioned von Nördling's. Yntema, Dean, and Ehrke-Schneider end up with linear total-cost functions, Ezekiel-Wylie with a function which exhibits a decreasing rate of increase. The latter result, I would not take too seriously. As Mosak[22] and others[23] have pointed out, plausibility is not one of its outstanding features.

It is, finally, worth mentioning that Ehrke-Schneider are the only ones to have secured observations on those extreme reaches of the total cost curve where average costs decidedly increase. But it took the ***maximum maximorum*** in relative cyclical position to make that possible. Their cement factory worked beyond optimum capacity during two months out of a period of about fifty years, at the top not only of the Juglar, but also of the Kondratieff, in 1873.

III

There is no reason, on grounds of theory, to be particularly upset by the conclusion which several of our authors have reached, namely, that marginal costs, instead of being U-shaped, seem to be constant over the whole of the observed range which, however, admittedly stops short of the probable point of optimum utilization of plant. All that this means is that an economic system in which such a condition holds rather generally, will be less stable than another in which U-shaped marginal costs predominate. And not one of the more competent theorists would need more than a moment's notice to invent and build into a "model" the compensating stabilizers required to approximate that model ever more intimately to "reality" which (as it well known) does not show uninterrupted series of explosions but some sort of

[21] George Terborgh, "The Problem of Manufacturing Capacity," *Federal Reserve Bulletin*, July, 1940, pp. 639-46.

[22] J. L. Mosak, "Some Theoretical Implications of the Statistical Analysis of Demand and Cost Functions for Steel," *Jour. Am. Stat. Assoc.*, vol. 36, pp. 100-109, especially p. 104.

[23] *E.g.*, G. J. Stigler, *Am. Econ. Rev.*, Suppl., vol. XXX, March, 1940, p. 402.

stability. From under *that* old top-hat we may, to use Hick's own image, confidently expect to be blessed with many more generations of lively rabbits. Economic theory, in short, cannot, quite apart from the Mises position, so easily be uprooted by any facts. In the particular case of constant marginal costs we are, thanks to Stigler,[24] in a position to look with equanimity upon any case of total-cost linearity that future measurements may grind out.

This, however, does not exempt us entirely from a consideration of the validity of the results so far presented. In fact, there is considerable room for doubting precisely their linearity aspect. An impressive array of arguments may be marshalled in this connection. I shall mention only a few points.

1. As Ruggles[25] has shown, very slight deviations from linearity in the total-cost function would be sufficient to impinge curvature upon the marginal cost curve.

2. Such deviations from linearity may easily occur for a number of reasons. For instance, the practice of straight-line depreciation fails to allow for the dependence of physical wear and tear upon output, thus understating costs at high, and overstating them at low, output levels. And negligible though that may appear, it might be just enough to confer upon the total-cost function that small amount of inverted S-shapedness which would suffice to bend marginal costs into their conventional U-shapes.

Furthermore, as Smith brings out in his forthcoming paper already quoted, in the event of a fairly long, say one-year, unit period, if the output is not spread evenly over each unit period, the use of the average rate of output during the period assumes a linear cost function and by this assumption biases the statistically determined cost function toward linearity, since the midpoint of a secant connecting any two points on a curve whose second derivative does not change sign lies closer to a straight line connecting the endpoints of the curve than does the corresponding point of the curve itself.

As Smith also shows, if costs are adjusted for changes in factor prices to any given period, this runs counter to the fundamental assumption of rationality in entrepreneurs' behavior and indeed destroys what evidence there may be of it in this important respect. If, in other words, the combination of factors used in the given period (to the prices of which the adjustment is made) was the most efficient one possible at the prices of that period, then costs in all other periods, when relative factor prices were different, would be overstated. This

[24] G. J. Stigler, "Production and Distribution in the Short Run," *Jour. of Pol. Econ.*, vol. XLVII, June, 1939, pp. 305-27.

[25] R. Ruggles, "The Concept of Linear Cost-Output Regressions," *Am. Econ. Rev.*, vol. XXXI, June, 1941, pp. 332-35.

point of Smith's is, I believe, quite realistic in that, in addition to Stigler's type of flexibility built into a plant which would flatten out the average cost curve, possibly at the price of a higher minimum level, there may be present another sort of flexibility by which an identical output may be obtainable with different factor combinations, choice between which would be guided by the relative factor prices. This would, after revaluation of the real cost elements at constant factor prices, lead to a maximum and a minimum level of costs for each level of output, thus making for a zone, rather than a single-valued cost function, in the statistical results. The width of that zone would depend upon (1) the "flexibility" of this special sort of which the plant was capable, and (2) the amount of variation in relative factor prices that occurred during the period of observations.

3. If the total-cost function, even after allowance for the above and any other conceivable points, should still insist upon being linear, it would not yet follow that marginal costs must be constant. For, as Barone[26] remarks in connection with Pareto's law of income distributions, "it is not safe to draw, by means of analytical transformations, other laws from an empirical law obtained by interpolations because one may in so doing end up with results completely divergent from reality." To his unsophisticated mind that still seemed to matter. This point of Barone's has been elucidated by Haavelmo in a recent paper.[27]

Arguments of the above type are plentiful and to be found in almost any treatment of our subject. To the extent that they apply to any special case they, of course, damage not only the linearity of the function derived but also the function itself. More particularly with respect to theory, this whole situation is very interesting. On the one hand, many reasons may be given why the statistical results, however carefully elaborated, may be spurious. On the other hand, however, there is also the tendency on the part of theorists, exemplified by Stigler, to build up a defense against possible future confirmation and consolidation of what, though itself still but shakily established, seems to contradict an assumption conventionally made in non-statistical reasoning. It is an interesting example of the inner workings of scientific progress.

IV

The discussion so far has been in terms of the reliability of the statistical results in relation to the functions which they claim to

[26] Enrico Barone, "Principi di Economia Finanziaria," now available as vol. III of *Le Opere Economiche* (Bologna, 1937), p. 55.

[27] Trygve Haavelmo, *On the Theory and Measurement of Economic Relations* (Cambridge, 1941, multigraphed), especially pp. 19 *ff*.

represent, and also in relation to the conventional representation of such functions in non-statistical reasoning. The following remarks will bear upon the significance of these results in a somewhat wider sense.

The final aim of both cost theory and measurement is, of course, and could not be anything else but a better understanding of entrepreneurs' behavior. There is no room for doubting that every entrepreneur perfectly realizes that, as long as he can increase his receipts more than he increases his costs by expanding his rate of output, it will be in his interest to do so under any given set of conditions which is likely to remain unchanged for some time to come. There is, however, considerable room for suspecting in the first place that, even abstracting from expected changes, entrepreneurs do not use marginal costs as *we* measure them in the application of that rationality principle. If that were so, it would not take long and painstaking research to discover marginal costs.

In the second place, even if actual objective marginal costs were known to entrepreneurs (as they quite probably are not), it might not be good policy to work at a rate of output which would maximize profits in the classical short-run fashion. For, although it is quite true that "in the long run we are all dead," that strictly applies to the long run only, and the likelihood of relief from duty through death does not normally enter an entrepreneurs' business calculations. Provision must therefore be made for the period of time which presumably lies between the present and the date of death. There is, for instance, the question of overhead costs. We tell our imaginary enterprisers not to worry about overhead costs in making current business decisions. But real entrepreneurs know that overhead cannot all be handled by mere balance sheet adjustments: interest must be paid in hard cash at stated dates. And although to economists it may appear as perfectly obstinate to refuse to accept so obvious a distinction as that between costs which are a function of output and costs which depend only on the lapse of time, there is *some* wisdom in a policy which attempts to keep cash ready for the moment interest charges are due. So much wisdom, indeed, that even the venerable principle that no production really ought to take place unless at least variable costs are covered by expected receipts might break down under the stress of its weight.

I should not, however, if I were asked for it, give the advice to handle the problem by a mathematical analysis of the conditions that would maximize profits over time (*pace* Tintner). I would rather be inclined, in this particular respect as well as more generally in relation to the determination of cost functions, to look for another type of solution. I often wonder if statistical theories and techniques whose

admirable development cannot fail to impress anybody *qua* intellectual exploit have not brought about a propensity to employ refined methods of inference where direct and complete knowledge would be readily available. Why go to all the trouble of measuring cost functions for an individual firm when it would be quite feasible to obtain from entrepreneurs (at any rate from those who open their books to the econometricians) the very best of information concerning the reasons for their decisions? Why not ask them directly, with all the caution required to avoid suggested answers, rather than try to infer in a most clever, but certainly roundabout, and probably incomplete way from dead records what probably is going to be a result irrelevant to actual business men's decisions?

I am not overlooking that the whole distinction between objective and subjective marginal costs and rationality would vanish in the event that private business men were replaced by government managers. The latter, being, I presume, less urgently concerned with the making of profits and the avoiding of losses, may possibly find the necessary leisure and be possessed of sufficient detachment to study marginal costs as they *really* are. And it is quite conceivable that the possibility of hinging price policies upon actual objective marginal costs would represent one of the major trumps in favor of socialism.

V

In this section, I wish to say a few words as to possibilities for future development in this line of inquiry.

In the study of demand, actual individual behavior is the deepest-lying level to which we can dig. Everything beyond is largely in the nature of speculation. I say largely, and not completely, remembering Thurstone's valiant attempt[28] to measure indifference curves by means of psychological experimentation. Nevertheless, it remains true that in that field, where the basic postulate of rationality is strictly analogous to the one which underlies supply theory, the greater part of the operation of this rationality takes place in regions where direct measurement is at least difficult. And being in a position to measure, so to speak, only one end of it, we are free to reconstruct the rest in agreement with any desired schema, *e.g.*, our own conventional consumers' equilibrium, without much fear of contradiction.

The situation is *not* the same in the theory of supply. Costs here, as expenditures there, represent only one of two pillars of the short-run rationality principle. But the other, receipts, or revenues, is observable, at least in principle. And being observable, it has to be observed if we

[28] L. L. Thurstone, "The Indifference Function," *Jour. of Soc. Psych.*, vol. II, 1931, pp. 139-67.

wish to avoid the absurdity of results obtained through application of our rationality principle to information on costs alone, a point which has so strikingly been shown by Leontief.[29]

Now I do not mean to say that any *statistical* approach to total, average, or marginal revenue functions for the firm is advisable. On the contrary, the doubts above uttered as to the significance of statistical cost functions fully apply to similar analyses of receipts. In addition, there are excellent reasons on the theoretical level which speak against any such venture. I am referring to the articles by Hall and Hitch[30] and Sweezy,[31] the simultaneous appearance of which again offers an example of ideas which are *in the air* and find independent and similar expression. And Sweezy's contribution in particular has the virtue of not being written in adaptation to, or in defense against, any previous findings which more or less explicitly claimed to disable preëxisting theoretical expectations. In consequence it may safely be said that there are excellent reasons why the subjective, *i.e.*, actually operative, demand curves should have a kink at the level of the current price. I should therefore again advocate some method of inquiry similar to that used by the Oxford economists, and be inclined to expect significant results. These results might be even more valuable if they could be expanded horizontally, following von Nördling's suggestion, so as to cover conditions, both of cost and revenue, for firms operating in the same or immediately related markets.

Finally, there are no reasons why at the cost end of the matter we should stop at the cost function. Two years ago, Stigler[32] proposed another approach to cost functions, *i.e., via* production functions, such as might be established by engineers. While that still remains a useful suggestion, there are reasons to hope that another type of production function, more diversified than Douglas's, may soon become available, and from these it would be possible to derive cost functions typical for particular industries. The literature on statistical cost functions so far produced has certainly, as all measurements are bound to do, enhanced understanding and awareness of the complexity of the subject. But I cannot help thinking that it also represents a case which bears out just that, and not much else.

Harvard University

[29] W. Leontief, "Elasticity of Demand Computed from Cost Data," *Am. Econ. Rev.*, vol. XXX, Dec., 1940, pp. 814-17.

[30] R. L. Hall and C. J. Hitch, "Price Theory and Business Behaviour," *Oxford Economic Papers*, No. 2, May, 1939, pp. 12-45.

[31] P. M. Sweezy, "Demand under Conditions of Oligopoly," *Jour. of Pol. Econ.*, vol. XLVII, Aug., 1939, pp. 568-73.

[32] *Am. Econ. Rev.*, Suppl., March, 1940, vol. XXX, pp. 402-03.

MODERN ECONOMICS AND THE INTRODUCTORY COURSE

By RICHARD CLEMENCE *and* FRANCIS S. DOODY

I

The repercussions of events which shake the whole civilized world eventually make themselves felt in the economics classroom. Students, in larger and larger numbers, are looking to the teacher of economics for an explanation of the great changes that are everywhere taking place.

In quieter times students begin their study of economics without a great deal of enthusiasm, and the first few meetings of the class often succeed in putting an end to whatever small interest in the subject they may originally have had. In days like the present, however, the teacher of economics, in his annual retreat from reality, finds it increasingly difficult to take his students with him. He is brought face to face with responsibilities which become no easy matter to evade. Not that most teachers are particularly anxious to evade their responsibilities to their students, but in more peaceful days they may easily do so without being aware of the fact. This is no longer possible in periods of rapid and violent change, and the teacher of economics finds himself in a difficult and embarrassing position. The teacher himself, we hope to make clear, is not wholly to blame for his predicament. It is but one of the symptoms of the generally unsatisfactory state into which the course in introductory economics has fallen. Indications are not lacking that there is a growing appreciation of the inadequacy of much of our teaching, and the time may well have been reached for a clear formulation of the issues.

The teacher of economics has accepted a position carrying with it great responsibilities, for he claims to possess both an understanding of the course of events beyond that of ordinary men, and the ability to impart this knowledge to others. The results of current teaching in most courses in general economics, however, make it difficult to believe that most teachers are living up to their claims. Economists, of course, do not pretend to be able to explain everything important that is happening in the world of reality. Yet, nearly every competent teacher of economics knows vastly more of vital interest to his students than he ever tells them. Our students need all the help we can give them toward an understanding of the forces shaping the future of America and of the world, but we seem obstinately determined to talk about anything and everything else.

Although dissatisfaction with the teaching of general economics is widespread, attempts to improve the situation have not been notably successful. The fundamental nature of our difficulties has not been generally appreciated, and attention has been too largely focused upon obvious, but superficial, defects. For our efforts at reform to be effective it is necessary to recognize the character of our troubles, and to determine the causes of them, before we undertake a course of action. No attempt will be made here to review the numerous shortcomings which have been widely discussed elsewhere, and of which most of us are sufficiently aware. Instead, we shall deal with the broader aspects of contemporary courses, and try to discover the more basic inadequacies, and the reasons why they continue to exist.

Courses in general economics utilize materials which may be crudely classified into two divisions: theory and descriptive matter. Most of the theory taught in introductory courses is the sort usually called static theory. This kind of theory is ordinarily applied to beginning students far beyond the point of diminishing returns. The study of the determination of value and price in perfect commodity and factor markets while dynamic forces are locked up in *ceteris paribus* can be significant to students only if it is frequently emphasized that these forces have been impounded, and only if they are eventually released. If theory is to make a major contribution to the students' understanding of reality, the dynamic forces ought to be freed at the earliest possible moment. This, however, is not usually done. The discussion of value theory goes on in a vacuum, and complications are often introduced which produce a spurious and very confusing illusion of reality. Monopolistic competition, for example, is much more like reality than the purely competitive analysis, but it is not a complete explanation of the real world and is not intended to be. Nevertheless, the refinements of monopolistic competition are often pursued in the classroom until a definite impression has been created that static analysis is much more powerful than it is in fact.

The inadequacy of the customary treatment of theory appears most clearly in those courses which devote some time to what are known as "economic problems." A glance at nearly any textbook of economic problems is sufficient to show that such books contain not merely statements of problems, but also what purport to be solutions of them. Here is implicit recognition of the fact that students cannot actually analyze economic problems, even after the issues have been defined and oversimplified for them. It is not to be wondered at that this should be true. They have learned methods of analysis that apply almost exclusively to stationary states, whereas the problems are those of a dynamic world. It might be supposed that an attempt to apply theory

to reality would make clear to students the extent to which static theory can explain actual situations and the extent to which it cannot. This is rarely true, however, for most discussions of problems make little or no attempt to apply the theories previously taught. Indeed, the problems very often degenerate into long and detailed discourses on the history, present condition, and future prospects of as many different entities as classification can produce.

The use of problems is, in any case, open to serious objection. To reduce the difficulties of the real world to a number of separate issues is to make it almost impossible to impress upon students the concept of an evolving system of interrelated and interacting elements. Anyone who is taught to think of the difficulties of the world as consisting of a number of clear-cut problems to each of which he has a proper solution is being poorly prepared to live in a real world so vastly different.

The attempt sometimes made to mix theory and problems together, instead of dealing with the two separately, is liable to no more temperate criticism. The root of the difficulty is the inadequacy of the static method for the analysis of dynamic problems, however introduced, and both the virtues and the limitations of the static method are hopelessly obscured by the combinations of economic principle, native cunning, and shrewd observation employed in reaching the standard solutions.

Static theory possesses squatter's rights in the introductory course which have been little disturbed by recent advances in the field of business cycle analysis. Even this tentative approach to reality is customarily postponed until the dying moments of the course, and it is then dismissed without any suggestion that it constitutes the principal body of theory applicable to most practical situations. The explanation for this peculiar condition is somewhat obscure. Certainly few of us feel that we have nothing to say to our students about cyclical fluctuations. Nor is it true that students cannot understand business cycles until they have explored all the ramifications of static theory. Indeed, prosperity and depression mean more to students at the beginning of their study of economics than do the topics ordinarily first discussed.

Strangely enough, the excuse usually offered for our failure to incorporate business cycle theory into the introductory course is that there are still too many differences of opinion concerning it among economists themselves. The weakness of this argument is evident when we consider the far-reaching changes which have recently been made in equilibrium theory, and the acrimonious discussions which have taken place concerning them. Yet it has not been seriously proposed that we stop teaching value theory in the classroom until everyone is as well satisfied with it as was John Stuart Mill.

While we are occupied in perfecting our defenses against the en-

croachment of business cycle theory upon the static analysis in our elementary courses, the battle against realism is in danger of being lost through the activities of enemy agents behind our lines. Nothing in recent years has aroused more controversy among economists than the publication of Mr. Keynes's *General Theory* and the literature associated with it. Since the principal work of the Keynesian group has been the analysis of a long-run equilibrium accompanied by less than full employment of the factors of production, their treatment has impinged upon our traditional teaching at one of its most vulnerable points. This is not the place to consider the accomplishments of the Keynesians in detail; opinion is still divided concerning the significance of their work. Our interest is in the contributions which the use of the Keynesian methods and materials may make to the teaching of elementary economics.

From this standpoint the use of the Keynesian analysis provides a means of supplementing the traditional static theory with the study of a model closer, in some respects, to reality. The concepts developed in this analysis may also be applied to short-run phenomena, and some teachers are doing this with a good deal of success. It seems likely that the teacher of general economics who himself likes to think in Keynesian terms will find their use in the classroom effective. Others may be more impressed by the ease with which false issues, such as the equality or inequality of savings and investment, may be pursued, and the facility with which students may be led to an uncritical acceptance of economic panaceas. Those teachers who have doubts concerning the use of the Keynesian system in the introductory course may eventually find themselves forced to accept much of it unless they are able to propose a more satisfactory alternative.

There is little novelty in the charge that much of the theory taught in elementary courses is sterile. It is not so generally recognized that a great part of the descriptive material ordinarily presented is liable to the same indictment. Obviously some discussion of current economic institutions is essential in any course in general economics. If a serious effort is to be made to teach useful methods of economic analysis, description must supplement the theories to give them their proper significance. All too often, however, an exhaustive account of the contemporary scene is undertaken with little or no attempt at theoretical analysis. Many courses in general economics have become so cluttered with descriptions of petty business practices, production policies of individual firms, personnel management, marketing techniques, and the like, as to give the impression that an attempt is being made to divert attention from fundamental inadequacies by talking loudly about things which are hardly economics at all.

Even when description is confined to economic entities, students are

frequently asked to learn much more than their teacher himself can remember from one year to the next. Large masses of facts and figures tend to be taught without any clear conception of their relevance and probable permanence. They are, of course, descriptive of reality but, as commonly used, they contribute very little to the students' understanding of it. It does not constitute an improvement in the course to make the wrong assignments longer and more difficult. Increasing emphasis on the particular and the trivial can only further obscure the general and the significant.

Descriptive matter, of course, is not confined to contemporary institutions, but includes historical material as well. It must be said that the treatment of history in the introductory course is more often than not a complete failure. A principal difficulty is that the discussion of history is seldom focused upon anything at all, to say nothing of the central problems of economics. The aim often seems to be to render to the student a factual account of such phenomena as the development of banking from the goldsmiths to the latest change in reserve requirements. Even when the origins and development of capitalism are explored, students very often fail to acquire the evolutionary point of view. This objective the study of history in the course in general economics ought always to achieve. One cannot expect that students will long remember the facts and dates they are taught, but they should always be left with a general conception of dynamic change and a feeling for the historical process in which their own present world is but a stage. Very often, however, the study of history leads rather to the belief that the process of history has culminated in the American capitalist system under which we may expect to live the remainder of our lives.

Another weakness of the ordinary treatment of history is that it fails to bring out the essential relation between theory and historical fact. Students are not shown how theory suggests ways in which to classify the facts of history, or how the apparently random facts of existence are brought into order through the use of explanatory models. It is not our view that history should be deleted from the course in general economics. Rather, we should seek to develop a method of integrating history and theory in order that the returns from both may be maximized. If historical material is to contribute, as it should, to the students' understanding of a world in motion, the forces making for economic change must not be allowed to lie unperceived under a blanket of meaningless generalities.

Another type of descriptive material commonly introduced into the elementary course has to do with current events and issues. Many courses end, for example, with a discussion of the New Deal, giving par-

ticular attention to the N. R. A., the A. A. A., and the abrogation of the gold clause. Apparently an annual revision of the subject-matter to include the latest bits of economic trivia is conceived by some as a method of making a static course dynamic. A daily reconstruction of the course to incorporate such changes as may have taken place during the night would seem to be the ultimate ideal. The treatment of current issues in the classroom is fruitful only if the students have sufficient background to see the issues in their proper perspective, and enough facility in economic analysis to formulate intelligent judgments for themselves. The fact that teachers often hesitate to raise controversial questions in class for fear they will bias their students is evidence enough that their students have not been properly trained. The reasons why students are not better prepared to deal with such matters have already been discussed. The situation is serious, for it is one of the functions of a course in economics to enable students to distinguish reason from prejudice. If we are not teaching them to do this in the cloistered atmosphere of the classroom, they are being poorly prepared to live in a world inhabited by increasingly clever pressure groups.

Perhaps the most conclusive evidence of our shortcomings is a simple truth of which nearly every teacher of economics is painfully aware. Intensely interested though he is himself in a subject inherently interesting, the economist has difficulty in arousing and holding the interest of his students from beginning to end of the course. He is forced to resort to all sorts of cunning devices in order to preserve the illusion that something is actually going forward in the classroom, and to keep his students from falling asleep. If some of us succeed in deceiving the unsophisticated, and leading them to believe that trivial things are important, it is small cause for congratulation. The plain fact is that we are not teaching our students what they want to know, and what they have a right to expect us to teach them.

It is somewhat easier to point out the nature of our difficulties than it is to discover the causes of them. The question would be less perplexing if economists were generally less competent, and if we could simply admit that they have nothing significant to say. But the study of economics has made considerable progress during the last half-century, and economists have reason to claim that they understand the world about them better than their predecessors of fifty years ago. The same claim, however, can hardly be made for many of their students. In spite of the progress our study has made, the teaching of general economics remains fundamentally what it was in Marshall's time.

One reason for this is that some of us are afraid our students cannot understand the things we know. It takes long years of study to

make a competent economist, and a beginning can hardly be made in a single year. It should be clear enough that a course in general economics will never make an economist out of anyone, and that a great many things economists find it helpful to know are of no use whatever to their students. But students do not have to learn all the useless things before they can comprehend the significant ones. If we insist upon our students starting over again where we began, we are imposing upon them a handicap which is totally unnecessary. It is the function of the teacher to teach his students that part of what he now knows that will be most valuable to them. There is no reason to think that they will be any less apt to learn the things they want to know than they are to learn those we are now trying to teach them.

A major cause of our difficulties is that a good deal of uncertainty exists concerning the proper aim of a course in general economics. Some would hold that we ought to teach our students how to make money. Another group takes the position that we should teach them how to spend it. There are also those who insist that our principal objective should be to teach our students a technique of thinking. With this technique they can perform what is called economic analysis, and solve economic problems. Opinion is again somewhat divided, however, as to whether the major aim should be to teach students to solve the problems encountered in advanced courses in economics, or the problems of the real world. Finally, a considerable number hold that the paramount consideration must be to teach our students about our economic institutions. If we can succeed in getting enough factual knowledge into their heads, it will never again be necessary for them to consult an encyclopedia.

The absence of a single definite objective has the unfortunate result that, in practice, we are often trying to do too many things at once. We attempt to prepare students for advanced study in the field of economics, for successful careers in the world of business, and for life as intelligent American citizens, all in one brief course. Obviously, so much simply cannot be done; the attempt can result only in failure. We would better concentrate all our time and energies on the achievement of some one of these ends instead of leaping into the saddle, like Leacock's horseman, and riding off in all directions.

But even when some single objective is precisely formulated the dead weight of tradition usually prevents its realization. Unless we can free ourselves from this burden at the outset, our attempts to modernize the teaching of general economics simply break down the integration of our subject-matter without disturbing the traditional outlook.

II

It is our conviction that reform in the field of economics teaching must begin with a restatement of the whole problem. The course in general economics requires a complete reorientation which cannot be achieved so long as we are dominated by an archaic point of view.

The general problem, briefly stated, is to determine the most effective method of teaching general economics to beginning students. Since a course in economics is only a part of the larger education of each student, it is unlikely that any single solution could be entirely satisfactory to everyone. Some students, for example, regard the introductory course as a preparation for more advanced studies in the field of economics. It may be that the tools and methods of economic analysis should receive more emphasis in a course designed for them than would be profitable for the rest. Whenever special courses can be offered to fit such special needs, or tutorial instruction can be used to supplement the work of the classroom, it is obviously desirable that these things be done. Unfortunately, however, they are seldom practically possible.

We are concerned throughout the present discussion with those students, forming the majority in most American colleges and universities, who take only one course in economics, and who must be taught in one year as much about the subject as they will ever learn in the classroom. It seems to be generally agreed that the provision of a satisfactory course for these students is one of our most pressing problems. Yet, it is not unfair to say, special attention is too often paid to the needs of some particular minority, while the majority are left to pick up such crumbs as may fall to them from the high table.

Our aim, then, is to determine how best to teach economics to students who will never study the subject systematically again. In only a few hours, constituting at the most a fourth of the students' time during a single academic year, they must be taught that part of what we know about economics that will be most valuable to them during the remainder of their lives. Necessarily, the choice of subject-matter will involve the rigorous exclusion of everything not of vital importance. The criteria of importance must be both relevance and permanence. Students are wasting their time if anything other than economics is permitted to occupy any considerable portion of the course, or if they are required to memorize data having only transitory significance.

There is no general consensus even among economists themselves concerning what is economics and what is not. Our science is still growing, and there is naturally some difference of opinion regarding its bounds. Indeed, it is open to question whether economics is properly

a science at all. We propose here to make use of a definition of our subject which departs somewhat from tradition. We define economics as *the study of the structure and operation of economic systems.*

Before we make use of this formulation as a basis for the choice of subject-matter in the introductory course, we shall say something concerning its advantages. It represents an attempt to give concreteness to the definition of economics, in order that it may be more meaningful to beginning students than those in common use. Experience in the classroom has shown that it does possess certain valuable attributes as a teaching device. In the first place, the definition may be introduced early in the course with some confidence that it will make a positive contribution to the students' understanding of the character of the subject they are going to study. Furthermore, the definition distinguishes between institutional and theoretical materials, and it leads to a ready appreciation of the relation of the more specialized divisions of the subject to the whole. Finally, the inclusion of an undefined term is purposeful; it focuses attention on the question of the nature of an economic system.

An economic system is defined as any set of arrangements by means of which a group of people attempt to satisfy their wants for scarce goods and services. This definition makes it easy to impress upon the student the complexity of the relationships between economic and social and political elements in the real world, and the necessity for abstraction involved in the very concept of an economic system. It is also possible to emphasize the fact that any economic system has definite boundaries only in our minds and never in reality, so that economic analysis alone cannot explain real phenomena without qualification. These highly important considerations are, of course, an old story to every economist, but it is very difficult to impress them upon beginning students. Definitions may often be developed for teaching purposes which, though imperfect from some points of view, are peculiarly useful in the educational process.

We return now to the choice of subject-matter. Any material is of some relevance if it contributes to an understanding of the structure and operation of economic systems. But to make the greatest contribution in the limited time available, it will be necessary to devote our principal attention to the American economy, and to study only the most important elements in its structure and operation. Further than this, the elements we select must be most important, not only at the present moment, but also in accounting for the changes in American capitalism which modify its structure and operation over time.

It has always been difficult enough to achieve any considerable integration of the subject-matter in the elementary course. If we deliber-

ately set for ourselves a task more ambitious than that traditionally undertaken, we run the risk of losing even such small continuity as still remains. It becomes more than ever essential to seek some unifying principle which can be made the focus of attention throughout the entire course; a core around which the study of economics can be built. What is most important, it must be, not a static element, but a dynamic one; an element, if possible, in relation to which the whole process of economic evolution can be significantly explained.

The one concept which best meets these requirements is, we believe, the national income. The entire course may be regarded as an attempt at the solution of a single economic problem. That problem is to explain the forces which determine the size and composition of the national income, its fluctuations over time, and its distribution in both space and time. To some extent this involves a return to the older view of economics as "political economy"; indeed, we are inquiring into the nature and causes of the wealth of nations. But we are no longer dealing with the economics of stationary states, and the analysis is more than an aggregative one. We are not proposing that the elementary course simply be made into a course in business cycles. Though business cycles necessarily occupy a more important place in our analysis than in the traditional one, they are far from being the sole topic of discussion.

We proceed now to a description of the course we are proposing. Our discussion is intended to be suggestive of what may be done, but the details are not of paramount importance and we would not insist that those we admit here are necessarily the best. It is evident that adequate support of our proposal would require the preparation of a textbook embodying the ideas we are putting forward here. We therefore wish to emphasize the fact that most of the necessary materials are already available, and that the principal objective is the development of a new point of view.

The national income is viewed as the resultant of the operation of the economic system over time, and reflects the changing structure of the system as it is modified by its own operation as well as by factors not purely economic. The explanation of the course of the national income and its distribution is made the object of economic analysis, and this explanation involves the study of the structure and operation of the American economic system.

We believe that statistical materials concerned with the national income of the United States since the early period may well be presented at the beginning of the course. The most effective method of introducing such materials is to provide the students with the necessary data and have them draw the simple graphs, using semi-logarithmic scales whenever rates of change are significant. The data first used are total

monetary and real national income, total population statistics, and per capita income figures. With graphs of these data before the class, it is remarkable how many significant questions are immediately raised by the students themselves. The study of economics has begun with facts from the real world, and these facts clearly require explanation. That student is dull indeed whose interest is not at once aroused.

At this early stage it is desirable to treat the data in general terms, calling attention to significant trends—explaining what is going to be attempted in the course, and how it is going to be done. Students not uncommonly pass a course in economics of the traditional sort without once having any clear conception of the relation of the parts to the whole or, in general, what all the commotion has been about. The difficulty with most discussions of these important matters is that they take place in a vacuum, and the students can do little more than try to memorize a number of abstract statements.

We suggest that the next step in the treatment be in terms of the concept of equilibrium, and that the student be given a clear comprehension of the limitations of the analysis, as well as an appreciation of its value for the understanding of many actual situations. There is considerable difference of opinion concerning the extent to which traditional theory contributes to an understanding of reality. It is our view that it does not accomplish nearly so much in the usual course as it can be made to do. To place the theory in its proper setting the question may be raised: Under what conditions would the national income remain constant over time, in composition, in size, and in distribution? The careful analysis of this problem serves to indicate the nature of equilibrium tendencies in the real world, and the conditions under which they may be expected to exert most influence. At the same time the basis is laid for the later treatment of the reasons why, in fact, a condition of equilibrium is never achieved by the whole system.

The discussion of equilibrium tendencies in the economy begins with a brief description of the principal institutions forming the structure of a capitalist system, with emphasis upon the free market. The relation of households and firms to the market is shown, and the forces which tend to bring them into equilibrium are analyzed for the customary time periods. The forms of business organization may be discussed here with particular reference to the meaning of a firm. The aim is to indicate the general character of the structure of the economy at the same time that its operation under given conditions is studied. It may be desirable to limit the scope of the discussion at this stage to the institutions of pure capitalism, and postpone the question of institutional change until the discussion of dynamic forces is undertaken.

The static analysis is developed for group equilibrium and for equi-

librium of the whole system. Value and distribution should be regarded as a single problem here, with no separate treatment of the different distributive shares. Emphasis upon the conditions necessary to the achievement of full system equilibrium forms the basis for the identification of frictions, which make ideal equilibrium impossible to reach, and of dynamic forces, which may set up cumulative movements away from such approximations to equilibrium as actually exist.

Only enough time should be spent on the static analysis to solve the problem with which it was introduced, and the discussion should move on at once to the treatment of dynamic change. This will involve the study, not only of business cycles in the ordinary sense, but of longer movements as well. We have found that a very effective method of treating these phenomena is in terms of the real and monetary national incomes and the interactions between them. With the introduction of movement into the system, the question of changes in the price level becomes significant, and this should be regarded as merely a part of the larger problem. Instead of introducing some one or several of the usual price-level formulae, we define the price level simply as the ratio of the monetary to the real national income. Price-level data now form the connecting link between these magnitudes, and the long-period rises and falls in the price level are related to the movements in output and the monetary circulation. This treatment has a number of advantages in teaching introductory economics. The analysis is simple enough to be readily understood, and at the same time it does not prevent the introduction of any complications that may be thought desirable. It also makes it impossible to divorce monetary theory from the real phenomena with which money is associated, and issues such as price-level stabilization are seen to involve the whole functioning of a capitalist economy.

Fluctuations in the monetary national income are explained in terms of investment and consumption, with data supplementing the theoretical treatment, and the function of credit in a capitalist system is developed. This leads to a study of credit institutions, the banking system, and central banking policies and controls. At no time are such institutions discussed as important in themselves, but an understanding of them is always seen as relevant to the principal problem.

The rôle of profits in a private enterprise economy is stressed and related to the incentives to invest. Here the relation of profits to factor prices may be shown, and the different distributive shares separately analyzed. The treatment makes full use of the shifting demand and cost curves developed in the short-run static analysis, and at the same time data are used to show the functional and personal distribution of income.

It is now desirable to deal with certain aspects of the institutional structure, such as trade unionism and collective bargaining, public finance, and international trade, in order to support the theoretical treatment and place it in its proper setting. These topics are often treated as a series of special problems, but their real relevance is developed by relating all of them to the national income. Fluctuations in trade union membership, for example, are seen to be associated with business activity and levels of employment. Public finance is seen to reflect the changing rôle of government with the evolution of capitalism, and international trade is related to levels of economic activity within the trading countries.

The discussion of international trade leads naturally to some comparison of the American economy to others. This may be done by presenting comparative data for the different aspects of their national incomes, and an examination of the resources of various economies may be undertaken. The resources of the United States cannot be made significant without reference to their relative importance in the world picture, and some indication of their influence upon the relative magnitude of our national income, as well as upon its composition.

The study of fluctuations in the levels of output, employment, and income could be profitably pursued during the remainder of the course. It is important, however, to make such use of the explanations developed as will contribute most to the students' understanding of reality. We believe this can best be done by applying what has been taught to a study of the historical process, and attempting to achieve a synthesis of economic theory and history.

The economic history of the United States consists essentially of a commentary upon the trends in the data already introduced into the course. History is therefore taught, not as an end in itself, but as necessary to the solution of the problem defined at the outset as the object of economic study. History should not be permitted to encroach upon the principal analysis, but should be subordinated to it, and only those historical facts introduced which have most significance for the explanation of the changing trends observed in the data. The dates to be emphasized are those associated with major changes in the behavior of the time series, and attention should be focused upon these series throughout the discussion. The changing character of the American economy should be related to the longer trends in the data, and the broad stages of capitalist development identified.

The concluding note of the course may well be a discussion of the relation of an economic system to the whole of society, and of the relation between capitalism and democracy. Capitalism will then be recognized as involving, not merely an economic organization, but a way

of life, and the various stages in the evolution of capitalism will be seen as phases in the development of our whole civilization. The teacher should make use of everything that has been taught by leading his students to think about the future of the United States and of the world, and about the important forces that are tending to shape that future. He should face his responsibilities with courage, and demonstrate that the study of economics can contribute to an understanding of life in a changing world.

Massachusetts Institute of Technology

COMMUNICATIONS

Silvio Gesell's Monetary Theory of Social Reform

In spite of the attention which has been given to the writings of Silvio Gesell,[1] the stamped money reformer, the unifying basis of his work has, I think, been neither clearly stated nor satisfactorily elaborated. The relation between the theoretical and practical aspects of his analysis has been either ignored, misunderstood or distorted.

Gesell's objective as a social reformer was to attack *rentier* capitalism and to substitute in its place an interest-free society. To fortify his reform position Gesell developed a system of economic theory in which he tried to demonstrate that the nonutilization of resources and the presence of nonfunctional income are the inevitable accompaniments of prevailing financial institutions. The most important single phase of his theory as a whole is his theory of interest. In its critical aspect this theory represents an attempt to show that, in a system of conventional money, interest income is a payment to prevent the hoarding of money. In its positive aspect the theory is an attempt to show that the introduction of stamped money would eliminate "basic interest" and thus pave the way to an interest-free economy. The purpose of this note is to show that Gesell's theory in general and his theory of basic interest in particular represent an argument for his stamped money proposal. This may best be shown by indicating that the practical insight which led Gesell to propose a tax on money was chronologically as well as logically prior to his theoretical system.

That the practical aspect of Gesell's thought was chronologically prior is not difficult to demonstrate. In 1886, at the age of twenty-four, Gesell migrated from Europe to the Argentine to engage in foreign trade and small-scale manufacturing. There he witnessed one of the most speculative episodes in the history of modern capitalist development. The great boom from 1885 to 1890 preceded a long and severe depression which lasted for the duration of Gesell's stay in the South American republic. The frustration of industrial activity produced a strong current of resentment against the speculating financiers, brokers, stock jobbers and mortgagees. As one whose interests were directly affected, and as one whose indignation was aroused by this financial debauchery, Gesell participated actively in the opposition to the group interests which appeared to be responsible for the chaotic state of

[1] *Cf.* J. M. Keynes, *General Theory of Employment, Interest and Money* (New York: Harcourt Brace, 1936), pp. 32, 353-58, 379; Irving Fisher, *Stamp Scrip* (New York: Adelphi, 1933), pp. 60-68, and *Stable Money* (New York: Adelphi, 1934), esp. pp. 141-44; Margaret Myers, *Monetary Theories of Social Reform* (New York: Columbia Univ. Press, 1940), chap. II; H. T. N. Gaitskill "Four Monetary Heretics," in *What Everybody Wants to Know About Money* (New York: Knopf, 1933), G. D. H. Cole, editor, chap. VIII; Arthur O. Dahlberg, *When Capital Goes on Strike* (New York: Harper, 1938); Franz Haber, *Untersuchungen über Irrtuemer Moderner Geldverbesserer* (Jena: Fischer, 1926); Hans Langelütke, *Tauschbank und Schwundgeld als Wege zur Zinslosen Wirtschaft* (Jena: Fischer, 1925).

affairs. His first publication, *Die Reformation im Muenzwesen als Bruecke zum Sozialen Staat,*[2] contained the kernel of his ideas on monetary policy. Between 1891 and 1898, Gesell published five other works on monetary policy,[3] but nothing specifically on monetary or general economic theory. These were the formative years of his career.

When Gesell returned to Europe in 1900 to reside in Switzerland and Germany, his practical reform proposals had already been worked out and published in all their essentials. The formulation of his theory came later. In 1911 he published *Die neue Lehre vom Geld und Zins,* which formed the theoretical basis for his system of social reform.[4]

A more detailed discussion is needed to indicate the logical, as distinguished from the chronological, relation of Gesell's program to his economic theory: first, because it has been the source of more misinterpretation of his position, and second, because of the somewhat more complicated nature of the problem. Keynes, for example, has reversed the relation between Gesell's theory and program. In discussing Gesell's theory of interest, Keynes says Gesell "carried his theory far enough to lead him . . . to the famous prescription of 'stamped' money."[5] Keynes conveys the impression that Gesell arrived at his practical suggestion in spite of a "great defect" in his theory, whereas it would be more accurate to say that Gesell's theory is not, in some important respects, an adequate explanation of his practical suggestion. His theory is a refinement of his insight that money should be forced to circulate by means of a periodic tax which would offset the preference of wealth owners for "hoarding" money rather than spending it for some form of consumable or productive wealth.

Gesell's contention that interest is a payment to prevent the "hoarding" of money classes his interest theory with the "exploitation" doctrines of other socialists. He regards the share of total social income represented by interest as a deduction from the income created by laborers, including industrial capitalists. His theory of interest is not, however, the same as the exploitation theory of Marx. Gesell's position is both anti-classical and anti-Marxian. Although he avowed himself a socialist and professed to be attacking capitalism as a whole, his anti-capitalistic position must be interpreted in terms of his definition of capitalism as "the interest exploiting system."[6] In this particular

[2] Buenos Aires, 1891.

[3] *Nervus Rerum, Fortsetzung zur Reformation im Muenzwesen* (Buenos Aires, 1891); *Die Verstaatlichung des Geldes* (Buenos Aires, 1892); *El Sistema Monetario Argentino, Sus Ventajas y su Perfectionamento* (Buenos Aires, 1893); *Die Anpassung des Geldes an die Bedürfnisse des modernen Verkehrs* (Buenos Aires, 1897); and *La Cuestion Monetaria Argentina* (Buenos Aires, 1897).

[4] This is incorporated in *Die Natuerliche Wirtschaftsordnung,* which has been translated by Philip Pye into English from the sixth German edition as *The Natural Economic Order* (San Antonio: Free Economy Publishing Co., 1936), in two parts, "Money Part," and "Land Part." References cited below are to the "Money Part."

[5] *General Theory,* pp. 356-57.

[6] Gesell's more technical definition of capitalism is, "An economic condition in which the demand for loan-money and real capital exceeds the supply and therefore gives rise to interest." *Natural Economic Order,* p. 110.

connection Gesell's position is similar to that of Gottfried Feder, who in 1923 was appointed by Hitler as the final judge of all doctrinal questions of the National Socialist Party. In Hitler's famous list of twenty-five points, one of the two points in bold-faced print calls for the "Brechung der Zinsknechtschaft," *i.e.*, for the abolition of "interest slavery."[7] Although this anti-finance capital outlook is significant, care must be taken not to identify the liberal, humanitarian premises of Gesell's program with the fundamentally different totalitarian premises of the Nazi party.

In order to explain how unemployment, crises and unearned income could be remedied, Gesell employs a threefold classification of interest rates: the basic rate (a theoretical rate), the rate of return to real capital (an estimated rate), and the loan rate (a contractual rate). Basic interest is described as a purely monetary phenomenon which has nothing to do with time-preference, waiting, or the so-called "productivity" of capital. It does not represent anything which exists in the real world, or at least there are no direct outward manifestations of its existence. Gesell says, for example, "Basic interest has up to the present escaped observation because it was concealed behind its offspring, ordinary interest upon loan-money. . . . Basic interest is a unique phenomenon which must be considered by itself; it is a fundamental economic conception."[8] Attempts to apply the test of correspondence between the concept "basic interest" and the object signified by it are certain to yield negative results because there is no signification of object. The concept has meaning, but there is no question of its (immediate) truth or falsity. There can be no appeal to facts on this level of analysis.

Gesell attempts to clarify "basic interest" by contrasting it with the "rate of return on real capital," *i.e.*, with the hire price paid to the owners of assets other than money. In comparing this rate with the basic rate, he hastens to add: "We ought to cease designating two such fundamentally different things by the same word, interest."[9] This is the reference of Keynes's statement that Gesell distinguishes clearly between the rate of interest and the marginal efficiency of capital.[10]

This same distinction between basic interest and interest on real capital is also used to contrast the declining rate of return on real capital assets with the constant rate of return on money. In this way Gesell points out that it is the money rate of interest which checks accumulation and impedes production. The accumulation of capital assets in no way reduces the independently determined money rate of interest. On the other hand, the accumulation of capital assets does lower the rate of return on real capital. When the latter falls below the basic (money) rate, accumulation ceases because it is now more profitable to hold money than to invest. This forces those who need money as a medium of exchange to pay the (now) higher basic rate. This basic rate, according to Gesell, corresponds to the "difference of efficiency between

[7] Gottfried Feder, ***Hitler's Official Programme*** (London: Allen and Unwin, 1934), p. 40.

[8] *Natural Economic Order,* pp. 265-66. Gesell's concept "basic interest" is similar to Keynes's "own-rate" of interest on money. *Cf. General Theory,* chap. 17.

[9] *Natural Economic Order,* p. 263.

[10] *General Theory,* p. 355.

money and the substitutes for money (bills of exchange, barter and primitive production) as media of exchange."[11] If it were not that money has a rate of interest of its own (basic rate), accumulation would continue without interruption and the rate of return on real capital would fall and soon become zero.[12]

Gesell did not contend that the introduction of stamped money would cause interest on loans to disappear immediately.[13] His explanation of this is facilitated by the distinction between loan interest and basic interest. Loan interest is used in the ordinary sense, referring to the amount of money paid by borrowers to the lenders of liquid funds. According to Gesell, the loan rate must always equal the rate of return on real capital assets, whether the loan be made in conventional money or stamped money. Loans contracted in stamped money will bear (loan) interest as long as the demand for loan capital exceeds the supply at a zero loan rate.[14] A zero loan rate must await the day when unimpeded accumulation causes capital assets to lose their scarcity value.

In saying that basic interest would disappear with the introduction of stamped money, Gesell means that the consequences which flow from the use of conventional money would be eliminated and processes set in motion which *in time* would reduce the loan rate and the real rate to zero. When this has come about, interest income will disappear, and *rentier* capitalism will be at an end.

In this respect Gesell's ideas on long-run social reform are closely analogous to Keynes's "euthanasia of the *rentier*."[15] The secular decline in the marginal efficiency of capital is another expression for Gesell's long-term reduction in the rate of return on real capital. Keynes tells us he believes that, within a period of a generation or two, unchecked accumulation would make capital assets so abundant that they would cease to yield a return in excess of their cost.[16] Both Keynes and Gesell maintain that pure interest can be made to disappear without socializing the instruments of production. In the new society individuals would still be free to accumulate, but their wealth would not grow automatically through interest accruals. Nevertheless, skilled risk takers would be free to venture their capital in new and uncertain enterprises, and if successful, would get a return in excess of their original investments. Thus the advantages of individual initiative and enterprise would be retained, while nonfunctional income and other undesirable features of the capitalist system would disappear.

The immediately significant difference arising from the substitution of stamped money for conventional forms is that all resources would be continuously employed. Basic interest would not exist as a barrier frustrating new capital formation. The "natural" forces of competitive production would adjust to a level of output at which resources would be fully employed. This

[11] *Natural Economic Order*, p. 263.

[12] In the case of naturally scarce factors, *i.e.*, land, Gesell advocated nationalization.

[13] *Natural Economic Order*, p. 262.

[14] *Loc. cit.*

[15] *General Theory*, pp. 221, 376.

[16] *General Theory*, pp. 220, 377.

is the meaning, in terms of practical consequences, of Gesell's distinction between basic and loan interest.

Thus, the peculiarity of Gesell's position as a theorist is to be discovered in his attitude toward social reform. Only by referring to his general position as a reformer can his theory be understood. The leading concept, basic interest, takes on meaning in terms of the modified behavior of the economic system which Gesell anticipated would follow from the introduction of stamped money. In some important respects his analysis is not fully developed, but in general the pattern is clear. Gesell's theory is primarily an argument for his program.

DUDLEY DILLARD

University of Delaware

War Financing and the Distribution of Income[1]

It is commonly asserted that one advantage of borrowing over taxation in the present juncture is that taxes enacted now will distribute the burden less equitably than would later peacetime taxes collected to pay off the bonds.[2] This assertion does not seem to me at all to reach the real issues involved. It has little relevance for the distribution of the *current* war burden, and it seems as likely as not to be incorrect in viewing the distribution of income by classes over time.

It is surely well established by now, though unfortunately not yet recognized by some of our congressional leaders, that the burden of the present war effort cannot be sloughed off by this generation onto later ones, by borrowing or otherwise. Thus the argument that future peacetime taxes may be more equitably allocated than present ones is largely irrelevant for discussion of an equitable distribution of the current war burden, even assuming that future taxes actually can be more equitably distributed (which is far from certain). In considering the allocation of the burden of war financing, the real comparison must be between the distribution of the tax burden now and the bond burden now (*including the price inflation which will probably come with borrowing*), rather than between present and future taxes. And if it is true that the very low income groups lose especially from inflation—and there is considerable truth in the statement—then even the fact that the rich buy the bonds does not necessarily mean a more equitable distribution of the present burden through borrowing, since borrowing from the rich is especially likely to draw on otherwise "idle" funds and speed price inflation.

The question of the relationship of war financing and income distribution over time (as distinct from the distribution of the war burden) is a much more subtle one than has been generally recognized. It is by no means clear that the low income groups are better off if we borrow now than if we tax, *even though future taxes are assumed to be more progressive than present ones*

[1] I am indebted to Dr. R. A. Musgrave for suggestions and criticisms on this note.

[2] See, for example, J. P. Wernette, "Financing the Defense Program," *Am. Econ. Rev.*, Dec., 1941, p. 761. In accordance with common practice, I shall take "equity" to mean roughly a progressively heavier burden relative to income going up the income scale.

would be.[3] Three simple cases, depending on the type of borrowing and the taxes displaced, may elucidate this point. In these cases by "progressive borrowing" I shall mean borrowing primarily from the higher income groups and by "regressive borrowing" that which comes more than proportionately from the lower income groups, to correspond with the tax terminology in describing revenue sources. In all cases, the assumption that future taxes are more progressive than present ones is accepted. For the moment it is convenient to abstract from the question of individual time preferences.

Case I. In the first case, let us assume that the present borrowing is regressive (perhaps compulsory along Keynes plan lines), and that such borrowing is an alternative to regressive taxation. In this case, the low income groups appear to be better off with borrowing now, since with borrowing they have a claim in a future period on bond redemption income which by assumption will be raised by more progressive taxes. However, a given amount of compulsory saving will almost certainly reduce consumer spending less than the same amount of taxes. Therefore, with the present large inflationary "gap," more price inflation may be expected under borrowing than under corresponding taxes; and, to the extent the lower income groups lose relative to other groups from inflation, any possible long-period gain to them from borrowing is thereby reduced or eliminated.

Case II. In the second and probably more likely case, let us assume that the present borrowing is progressive, and that such borrowing is an alternative to regressive taxation. It is useful to subdivide this case, depending on whether the progressive borrowing correspondingly reduces private spending or comes out of "idle funds."

(a) If the progressive borrowing correspondingly reduces the spending of the lenders, it is approximately as noninflationary as taxes. In this case the low income groups will be better off with present borrowing so long as future taxes are more progressive than those at present would have been if used.

(b) But if, as seems far more likely, the progressive borrowing fails to reduce correspondingly the spending of the lenders, the borrowing is inflationary, and the question of the present redistribution of income and the allocation of the war burden becomes a highly complex one. In judging the effects on the low income groups over time, the question is then whether the future tax system is sufficiently more progressive than the present would have been to more than offset the special losses which major elements of the lowest income groups suffer through inflation. The answer in this case is uncertain; quite possibly the lowest income groups would be worse off with present inflationary borrowing than with present regressive taxes.

Case III. In the third case, let us assume that the present borrowing is progressive, and that such borrowing is an alternative to progressive taxation. In this case the low income groups are clearly worse off under borrowing, unless it be assumed that future taxes to pay off the debt will be even more progressive than those at present would have been if used. This conclusion holds even under the assumption that the present progressive borrowing is non-

[3] If the contrary assumption is made, obviously the basis for the argument under discussion vanishes.

inflationary. If the present borrowing is inflationary, as is more likely to be the case, the likelihood of loss to the lowest income groups is correspondingly increased, as noted under Case II (b).

The introduction of time preferences complicates the matter further. Whether one should assume it is more important for a poor man to have a dollar now as compared to the future than for a rich man is not clear. The answer depends not only on personal preferences (where the poor probably place more emphasis on present income), but also on the absolute level of national real income and its distribution.

G. L. BACH

Washington, D.C.

A Note on Price Discrimination in Steel

In *Price Discrimination in Steel* (T.N.E.C. Monograph No. 41) it is argued that the steel industry offers very large quantity discounts to the buyers of its products. From this statistical conclusion the authors make numerous inferences, among them that the competitive position of small buyers of steel is endangered and that the federal government pays too much for steel (p. 27). These inferences may be true, but this note attempts to show that the statistics on which they rest are quite unsatisfactory.

The basic data consist of prices and freight charges (actual and charged) on various steel products by size of shipment, in February, 1939. These data are converted to a per ton basis and then summarized by classes. The most striking case is reproduced in the table below as an illustration of the results. The authors conclude that "the price concessions to the big [automobile company] buyers can be seen to be very substantial" (p. 23).

PRICE OF COLD-ROLLED STRIP[a]

Size of Shipment (in tons)	Mill Net	Net Extras	Base Price
Under 3	$138.63	$73.21	$66.51
3 to 10	145.41	72.21	74.37
10 to 30	104.84	45.77	60.25
30 to 100	92.67	32.64	60.78
100 to 300	92.23	34.27	58.51
300 to 1,000	70.88	11.14	59.55

[a] Taken from T.N.E.C. monog no. 41, p. 23.

There is one basic defect in the procedure. The "extras" explain almost all of the difference in the mill net receipts. These "extras" were actual charges, not quoted prices. It is impossible to discover from the monograph whether the decline in charges for "extras" as size of shipment increases is due to lower quoted prices or to reductions from quoted prices secured by bargaining power. Moreover, if this separation were made, it would be impossible for the non-expert to decide which of the two, actual or quoted prices, was more

appropriate to the cost differentials of the "extras." If the "extras" were charged at rates justifiable on cost grounds, there was little discrimination in the pricing of steel. Subtracting "extras" from mill net leaves a mill net for products of standard specification which falls from $65.42 to $59.74, or about 9 per cent, and not the 50 per cent suggested by the mill net figures. This 9 per cent decline could also be due to cost differentials, of course.

The authors meet this point by saying that "quality demands on large orders are frequently very exacting" (p. 23). If this comment is not irrelevant it implies that the charges for "extras" are not proportional to their costs. Since this is a crucial question in the interpretation of the statistics, it would have been reassuring to support it with evidence.

GEORGE J. STIGLER

University of Minnesota

The Economists' Tariff Protest of 1930

The economists' statement in opposition to the Hawley-Smoot tariff bill was a unique document. No pronouncement by American economists has ever attracted the public attention that this received. It seems desirable, while memories are reasonably accurate and some of the correspondence relating thereto is still available, to give a brief history of this protest. Since my friend, Professor Clair Wilcox of Swarthmore, who was the leading spirit in the matter, declines to tell the story, I take the liberty of doing so.

With the sharp division of economic opinion in recent years on so many issues of public policy, it is hard today to realize the almost unanimous opposition of economists, in the spring of 1930, to the tariff bill then pending in Congress. Economic faculties that within a few years were to be split wide open on monetary policy, deficit finance, and the problem of big business, were practically at one in their belief that the Hawley-Smoot bill was an iniquitous piece of legislation. What later developed into a statement backed by over 1,250 economists originated in a very modest way out of the desire of Wilcox and some of his associates at Swarthmore to voice their protest. At the suggestion of Wilcox, Professor Paul Douglas of the University of Chicago, who was then temporarily at Swarthmore, drafted a statement in March that, with some changes in phraseology, was the one given to the press five weeks later. It was decided to ask an economist at each of various eastern universities to sponsor the statement, and then to send it to a member of the economics faculty at each American college, with the request that he solicit signatures from his colleagues. Professors E. M. Patterson of Pennsylvania, Frank D. Graham of Princeton, Henry Seager of Columbia, Irving Fisher of Yale, and F. W. Taussig of Harvard, were asked to join Wilcox and Douglas in sponsoring the statement. This they all agreed to do. As a result of the comments of these men a few changes were made in the text, and at the suggestion of Fisher a paragraph was added pointing out the significance of tariff policy in connection with America's creditor position.

Fisher also made the suggestion that the entire membership of the American

Economic Association be circularized, and offered to pay the difference between the cost of this and the estimated cost of the original plan. This was done at a total cost of $137, of which Fisher contributed $105. With the clerical assistance of Swarthmore students, the statement was sent out to over 2,500 members of the American Economic Association with a request for signatures. The response was an amazing one. Inside of ten days nearly a thousand signatures had come in, including those of most of the leading figures in American economics. What had started on a simple scale had snowballed into what promised to be a document of national significance.

Wilcox delivered a copy of the text and signatures to President Hoover, Senator Smoot and Congressman Hawley, and gave the material to the press in Washington for release on Monday, May 3. Political opponents of the bill and newspapermen who sensed the news value of the statement took care of the publicity. Senator Pat Harrison had the statement and the list of signers read into the *Congressional Record* of May 5.

Veteran newspapermen, to whom the nation-wide attention that the statement received seemed to indicate a high-powered publicity campaign, backed by ample appropriations, were almost incredulous when they learned that the protest had been organized and carried through at an expense of less than $140. This was possible only because of a virtual unanimity of economic opinion on an important issue and the release of the statement to the press at a particularly opportune moment.

FRANK WHITSON FETTER

Haverford College

Correction

An obviously erroneous statement appears in my recent article, "Tax Shifting in the Market Period," in the *American Economic Review* for March, 1942. The error fortunately does not affect the validity of any of my arguments or conclusions. The incorrect statement appears on the lower half of page 74. It runs as follows: "It is a familiar fact that under both pure and monopolistic competition the individual seller is in market equilibrium when his reservation price is equal to marginal revenue." The statement is correct in the case of pure competition but incorrect in the case of monopolistic competition.

ELMER D. FAGAN

Stanford University

BOOK REVIEWS

Economic Theory; General Works

The Theory of Consumer's Demand. By Ruby Turner Norris. (New Haven: Yale Univ. Press. 1941. Pp. 220. $3.00.)

The recognition of the phenomenon of product differentiation, and its explicit introduction into economic theory, has wrought a substantial change in modern price and market analysis. So far, however, only those implications of differentiation which affect the conditions of supply have been thoroughly explored; it remains to consider its implications for the theory of consumers' choice. It is to the rewriting of the latter theory subject to the assumption of ubiquitous differentiation of products that *The Theory of Consumer's Demand* is primarily devoted.

The book, involving as well a general critique of the theory of choice as it has come to us from the Austrians, from Walras, from Marshall, and more lately from Hicks, is divided into two main parts. The first of these, preparatory to the main thesis, is a straight-forward exposition and evaluation of the indifference curve analysis recently popularized by Hicks. This presentation is wholly in geometric, arithmetic, and literary terms, and serves as a good interpretation of Hicks for the nonmathematical reader. Hicks's principal conceptions of substitutability, complementarity, etc., are investigated; his basic assumptions are explored; and the indifference and marginal utility analyses are carefully compared. While the contribution of this section is largely expository and critical, it should be particularly useful as an introduction for graduate students to the ideas of Mr. Hicks.

The second and principal section is devoted primarily to a theory of choice and demand in terms of related goods or differentiated products. The theory involves the development of three main, related propositions. Of these the first is that people's consumption habits are such that they never consider their expenditure patterns in a "general equilibrium" sense; that all problems of choice are necessarily "partial equilibrium" in character; and that therefore a realistic theory of choice should be primarily concerned with partial rather than with general equilibrium problems of choice. Rejecting the idea of a highly hedonistic individual, the author argues that the individual's consumption pattern is derived not from a conscious calculus of choice among all the items in his budget, but rather from his cultural heritage. This inherited budget pattern is conventional, inflexible, and changes only slowly. Such deliberate changes as are made affect only a limited area of consumption, and are necessarily successive rather than simultaneous. Hence the necessity of shifting theoretical emphasis from the general to the partial equilibrium type of choice decision.

The second main proposition is that the sort of theory of choice indicated

needs first to be differentiated into a long-run and short-run theory, a conspicuous omission on the part of contemporary writers. To this end the author develops first a short-run theory of demand, concerning consumer response to price changes in "a period of time so short that no changes in income and *no changes in established consumption rates*[1] occur." In such a period consumer reactions to price change consist of the hoarding or dishoarding of money, the building up or depletion of stocks of goods, and experimental purchases on items outside the normal budget. Previous commitments have a rigidifying effect on the expenditure pattern, and calculations of marginal utility (or of marginal rates of substitution) have no valid application. The author holds that the short-run theory of demand is particularly distinct from the long-run for the great mass of differentiated, non-staple products which are particularly likely to be stocked in response to price changes, and for "petty goods" purchased experimentally in the short run. Although such a theory is suggested rather than fully developed, the suggestions are penetrating.

The third main proposition is that the basic (long-run) theory of choice must be rewritten to emphasize the primacy of partial equilibrium choices within groups of close substitute differentiated products. A simple non-mathematical theory is developed along this line, and recognizes two main categories of differentiated groups. The first includes groups of out-and-out substitutes, within which the consumer makes a choice, as, for example, among various makes of automobiles. The discussion of this problem, emphasizing the phenomenon of a single choice from multiple alternatives variously priced, is well handled. The second category of groups is that of complementary substitutes, an innovation of the author. Complementary substitutes are groups of differentiated goods each member of which is specialized to a particular subdivision of a general want—as, for example, tennis shoes, walking shoes, and dress shoes—and which have an aggregate utility when possessed in groups greater than the sum of individual utilities when possessed separately. The establishment of this category is obviously no mere terminological innovation, but a recognition of a real phenomenon heretofore largely neglected. For such goods, which the author believes to be a dominant category, she devises an appropriate theory of choice.

In sum, therefore, what is suggested and developed is a major shift in emphasis in the theory of consumer choice toward choices by the consumer among clusters of competing substitutes and complementary substitutes, as they arise out of the ubiquitous phenomenon of product differentiation. This work constitutes a definite contribution to the theory involved, not primarily on the technical level, as it is argued largely in terms of arithmetic and geometric examples and never in a highly general form, but rather on the level of a revision of basic assumptions and of an exploration of the general implications of these revisions. The major propositions concerning human psychology and habit and concerning the occurrence of products in differentiated clusters are smoothly fused into a consistent major argument.

A final aspect of the work involves some suggestions concerning the impli-

[1] Italics mine.

cations of the modified theory of choice for the demand curves of the sellers of differentiated products. The phenomenon of discontinuity of demand curves at conventional prices, the effect of an increase in the number of products in a cluster on the elasticity of demand for each of them, and other issues raised in recent price literature are discussed, although this treatment does not progress far beyond the expository level. This portion of the work suffers from a limitation common to a considerable portion of literature in the Chamberlinian tradition (not implicit in Chamberlin's own work)—a preponderant emphasis upon the effect of product differentiation on the demand for the individual seller, and an insufficient emphasis on the importance of fewness of sellers within a "cluster."

It would have been appropriate if this highly realistic treatment of consumer choice could have been capped by an equally realistic explicit recognition of the fact that in modern markets pure oligopoly and especially differentiated oligopoly, as opposed to monopolistic competition in the sense of product differentiation plus large numbers, are the dominant categories. All cases of markets involving large numbers are peripheral to these dominant categories in the same sense that the author holds unrelated homogeneous goods like wheat and cotton to be peripheral to the dominant clusters of complementary substitutes. The various subdivisions of the oligopoly category should be explicitly the concern of such a work as this in so far as it touches on sellers' demand.

This limitation, however, in no way affects the substantial merit and novelty of the bulk of the work, which is concerned primarily with the theory of consumer choice. On this level the author has made a substantial contribution to contemporary theory.

Joe S. Bain

University of California

A Theoretical Analysis of Imperfect Competition with Special Application to the Agricultural Industries. By William H. Nicholls. (Ames: Iowa State Coll. Press. 1941. Pp. xiv, 384. $3.75.)

This excellent volume is addressed primarily to the large body of agricultural economists. It should, however, prove useful not only to the specialists but also to most economic students who will find in it an extremely readable review of a large sector of current economic theory.

The title is indicative of the dual nature of the book's contents. It is chiefly a theoretical study, but it contains at the same time a great deal of empirical material about agricultural processing and distributing industries. Dr. Nicholls has tried to achieve two goals. First of all, he attempts to demonstrate that agriculture is not, as is so often implied, a sort of sanctuary for the theorists of pure competition. The processing agricultural industries must be studied in terms not of pure, but of monopolistic competition. As it now stands, however, the analysis of imperfect competition may be too complex or ill adapted for practical use in agricultural research. Dr. Nicholls has also set about to remedy these defects.

The small scale of farming operations coupled with the relatively standardized nature of their products appears, at first glance, to fulfill the strictest requirements of purely competitive theory. This is not so, however, for the buying side of the market does not conform to the necessary assumption of atomistic behavior. The three largest buying firms of livestock account for 57 per cent of the total volume handled; the percentage is 46 per cent for tobacco leaf, 38 per cent for wheat, 30 per cent for canned vegetables, 21 per cent for milk. Pure competition among sellers is matched with oligopsony, not pure competition, among buyers. These departures from purely competitive standards are further enhanced by the geographical barriers between local submarkets. What is needed by the agricultural economist, therefore, is a thorough understanding of imperfect competition among buyers and, especially, of the nature and functioning of oligopsonistic markets. Since imperfect competition has been developed mainly with reference to the selling side of the market, the first task is to reinterpret it in terms of imperfections in the buyers' market. Dr. Nicholls's book is largely devoted to the problem of putting into reverse gear the familiar Chamberlinian analysis of monopolistic competition. In a good two hundred and fifty pages he discusses, from this point of view, the various cases of monopoly-monopsony, oligopoly-oligopsony, bilateral monopoly, service and product differentiation, and price discrimination.

The theoretical problem is handled skillfully and in a very readable form. Dr. Nicholls disclaims any ambition to be a "tool-maker" and clings tenaciously to the useful, if ungrateful, task of a "tool-adapter." I cannot help feeling, however, that he is, at time, somewhat too faithful to his models. Although he recognizes explicitly the limitations of particular equilibrium methodology, he makes no effort to escape its fetters and the analysis runs, throughout, in Chamberlinian and Robinsonian terms. The discussion of derived demand, in Chapter 2, would have gained enormously if the now familiar tools of indifference analysis had been resorted to. Only in this way is it possible to make any sense out of the concept of the elasticity of substitution. As used by Mrs. Robinson and Dr. Nicholls, the "elasticity of substitution" is a mere re-christening of the problem which confronts us. It does not bring its solution one step nearer.

The otherwise excellent discussion of oligopoly-oligopsony suffers from a certain hesitancy, on Dr. Nicholls's part, to choose between pure and applied theory. The first half of the analysis is little more than a rehash of Chamberlin's Chapter 3 with hardly any relevance to real agricultural markets. (Incidentally, Dr. Nicholls seems to identify Bertrand's and Edgeworth's solutions of oligopoly. Edgeworth's solution, although starting from Bertrand's model, introduces highly restricted assumptions and concludes that the price will oscillate between the monopolistic and the competitive level, while Bertrand argued that the equilibrium price would be the same as under pure competition. Dr. Nicholls's objections apply to Edgeworth's scheme rather than to Bertrand's.)

The discussion begins to be interesting when Dr. Nicholls takes leave of his authorities and investigates the more realistic situations where one or a few

firms dominate the market. The argument explaining how, under such conditions, the influence of entry is likely to bring about competitive profits, but with excess capacity rather than with competitive prices, is a model of clarity. On the other hand, his assertion that where a few firms dominate the market, we should expect "that prices throughout the industry would tend to be established at such a level as to maximize the profits of the most efficient of the dominant firms" because ". . . in their relationship to each other, a few dominant firms must recognize the most efficient of their number as their leader" (p. 143) seems to me rather gratuitous. Larger size, or superior financial and research means, may—"regardless of efficiency"—be the decisive factor in enforcing leadership among the dominant firms as well as between the dominant firms and the others. In the steel industry, for instance, is the U.S. Steel Corporation the most efficient of the dominant firms?

The section on price discrimination includes a brief discussion of empirical supply and demand curves. I doubt whether this will be of much help to most readers. A disproportionate emphasis is placed on the influence of time-lags upon the shape of the curves, but other fundamental difficulties are hardly touched upon. Indeed, outside of pure competition, it is difficult to give any precise meaning to industrial demand and supply curves. Moreover, would not the supply of many agricultural products depend, not so much on their own prices in isolation, but rather on the relation between that price and the prices of other agricultural commodities to which production might be shifted? Nor does Dr. Nicholls discuss the primary statistical problem of isolating shifts of demand from shifts of supply. I think it significant that, in recent years, the attention has shifted largely from the study of statistical *supply* curves to the investigation of statistical *cost* curves.

Having shown the pervasive influence of monopsonistic factors in agricultural markets, Dr. Nicholls sets about answering a second objection to the extension of imperfect competition analysis to the agricultural field. "The fact that processor-distributors do not directly control the short-run supply of the farm product has . . . frequently been interpreted as precluding the existence of imperfect competition among them" (p. 1). "The natural reaction . . . is that, since there is no control over the supply (hence none over price), there can be no monopoly" (p. 353). Dr. Nicholls points out that this lack of control over the short-run supply of farm products is not relevant to the position of the processor. The latter's monopoly rests upon the control, not of the farm product, but of his processing-distributing services and of their price, *i.e.*, of the spread between the price paid to the farmers and the price received for the processed product. Concentration of control among the processors-distributors need not, however, result in constant spreads. If the dominant firms were able to forecast future supplies accurately, imperfect competition would, just as pure competition, lead to relatively flexible margins. Margin inflexibility should be associated, not with mere concentration of control, but with the uncertainty of the dominant firms as to the responses of producers and consumers to price changes. Personally, I would stress as equally important the uncertainty of each processor as to the reactions of his rivals, and the resulting tendency to price—or, in this case, to margin—stickiness. Finally, it is re-

marked again that in so far as the control of competition and entry is imperfect, profits may fall to the competitive level while the margins remain high, due to the wastes and costs of excess capacity.

This brief summary does not do justice to the book. Dr. Nicholls has made excellent use of his empirical data in illustrating the theoretical analysis. This close interpenetration of theory and facts is, to me, the most valuable part of his work. Those who are looking for an agricultural Burns's *Decline of Competition* will only regret that he did not do more in this direction. Indeed, outside of meat packing and milk marketing the empirical material is rather scanty and comes in mainly by way of examples. In view, however, of the difficulty of the task and of the limitations of space, Dr. Nicholls should be commended for what he did, rather than blamed for what he has not yet done.

My main criticism would rather be directed toward his heavy reliance on a few standard works in the fields which he covers. This is especially apparent in his discussion of economic dynamics and in his treatment of oligopoly. With relation to the latter, the literature reviewed is nearly exclusively Chamberlinian, and no mention is even made of such names as Kahn, Sweezy, Smithies, etc. As a result, the solutions offered are unnecessarily narrow and arbitrary. To a certain extent, this is, of course, unavoidable in dealing with a problem which admits of an infinity of solutions. Much could have been gained, however, by shortening the discussion of the traditional Cournot-Edgeworth controversy, and devoting some attention to more significant models such as cut-throat competition, price stickiness, etc.

As it is, though, Dr. Nicholls has performed brilliantly a most useful service. He has disposed very effectively of the old shibboleth that imperfect competition is inapplicable to the agricultural field. In addition, he has retooled many of the current weapons of monopolistic competition and short-run dynamics in such a way as to simplify their mastery and to adapt them for ready use in the study of agricultural markets. The readers of the present volume will undoubtedly await with high expectations the future writings, alluded to in the Preface, in which Dr. Nicholls will apply his own theorizing to further problems of practical research.

ROBERT TRIFFIN

Harvard University

Introduction to Responsible Citizenship. By WILLIAM E. MOSHER and Associates. (New York: Holt. 1941. Pp. viii, 886. $3.25.)

Responsible Citizenship is designed as a textbook for an introductory course in social science or human relations. This intent should not blind one to the fact that it can also serve as a highly literate survey for the mature scholar who wishes to sink his teeth into an exercise in perspective and synthesis. The contents represent the equilibrium attained by the faculty of the Maxwell School of Citizenship of Syracuse University after some sixteen years of experiment with various subject matters. The reviewer knows from personal experience the extent to which the detail has been hammered out and

constantly revised in weekly conferences of the representatives of the various social sciences who have shared in the teaching.

The book is a compromise between the compartmentalized, capsule survey course in the social sciences and the integrated fusion course in social science. It starts bravely as a general study of human behavior grounded in social psychology and expressing itself in various aspects of life. This view of social behavior in general is followed by a survey of its peculiar expression in governance. However, the behavioristic approach is almost totally absent in the subsequent treatment of economics and is muted in the history of democracy which follows the economic section. It is again resumed in Part V, under the title "Rival Social Philosophies."

All textbooks and courses aim to promote understanding and social insight, and this is no exception. On the other hand, this particular book belongs to the minority which have the courage explicitly as well as implicitly to motivate their readers toward a given course of social action. With all their hearts, the authors favor the democratic, positive state, and raise alternatives largely to refute them. It is, however, no paternal bureaucracy which is the authors' utopia. At every point the student is exhorted himself to participate in democratic activity, and arguments therefore are given in full. The title is well chosen.

Dean Mosher opens the book with a reasoned essay on the meaning and challenge of responsible citizenship in contemporary society. This is followed by Professor Haring's section on "Social Behavior." In this section, the fundamentals of social psychology are outlined and their expression in society indicated. The Iroquois and Japanese cultures are used as examples, with the obvious and successful intent of leading the student to see institutions in his own culture, not as permanent and God-given, but as the product of time and place. The parts of this section which deal with cultural analysis are better done than those concerned with social psychology. One suspects that the author's desire not to be vulnerable to criticism from the profession may have made him reluctant to commit his views to print with that clarity and precision which is desirable in an introductory course. The result has been a certain blurring in the subject matter.

Professor Beyle's section on "Governance" is clear and interesting, and makes full use of the approaches of the earlier portions. It is abstract in its premises and conclusions, but each abstraction is buttressed by a wealth of concrete illustrations drawn in many instances from the experience of university students. Government is pictured as social control with an ever-varying range of activities. These activities express themselves through institutions, but the latter are pictured realistically, and not as mystical entities. Issues are treated as the outgrowth of motivational differences, and these are traced to their origins.

The section on economics suffers somewhat from the fact that it is not well integrated with the other parts of the book. Considered as a unit by itself, however, the reviewer has nothing but praise for it. In a scant two hundred pages of clear and interesting writing, Professor Ross has packed all of the main features of contemporary institutional economics. By the author's device

of constantly raising questions the student is or should be safeguarded from the temptation of superficiality. The major issues raised include capital formation, monetary control, cyclical variations, capacity for production, state control, and remedies for maldistribution, exploitation, and unemployment.

Professors Galpin, Harlow, and Mosher share the responsibility for Part IV, which in effect is a history of democracy. The contributions of Greece, Rome, the Renaissance and Reformation, the American and French Revolutions, Jefferson and Jackson, and the Progressive Movement are passed in review. The material is compact and closely knit. It succeeds in illuminating the democratic way as cumulative and ever-developing.

The final section treats democracy, communism, and fascism as alternative ways of life. Considering the magnitude of the respective subjects—each assigned but a chapter—a reasonably clear and objective picture emerges. The picture occasionally sacrifices accuracy to the necessity for a measure of oversimplification; and omits altogether certain important aspects, such as the corporatism usually associated with fascism. The contrast between theory and practice in communism is well brought out by Mrs. Fisher, as are also the similarities and differences between communism and fascism. Dr. Mosher contributes the conclusion, which restates the introduction in the light of what has gone between.

In a work purporting to cover the whole field of human relations, a reviewer is almost certain to look for more than it is humanly possible to cover. Nevertheless, the work is not merely a study of democracy, but it is also a tract urging its preservation. Hence one would expect to find pointed out in the contemporary scene the connection between religions which hold the individual sacred and the preservation of human rights. Instead there is a studied avoidance of this approach, and individual rights are discussed either as merely expedient or at the most as in some fashion biologically grounded. Moreover, Professor Haring seriously weakens even this approach when he assumes (p. 172) that democracies are inefficient as compared to dictatorships and tyrannies. However, criticisms of this sort must not obscure the fact that the work succeeds in its avowed purpose. My recollection is that for a number of years the course on which this book was based was consistently voted the "most valuable" by a majority of the students taking it.

ERNEST S. GRIFFITH

Washington, D.C.

Economic History

Burlington West, A Colonization History of the Burlington Railroad. By RICHARD C. OVERTON. (Cambridge: Harvard Univ. Press. 1941. Pp. xviii, 583. $4.50.)

Mr. Overton's study, following the pioneer researches of James B. Hedges for the Northern Pacific and the Canadian Pacific and of Paul W. Gates for the Illinois Central, deals with the organization, methods, and results of the

colonizing activities of the Burlington and Missouri River Railroad. The sources are so abundant that they have provided almost an embarrassment of riches. The records of the land department in the Baker Library at Harvard are supplemented by the official records and archives of the road, various collections of correspondence, public documents, newspapers, and local histories. The only potentially important sources not utilized are German and Scandinavian newspapers published in the United States. The bibliography is too inclusive and indiscriminative. Superficial popular books that can contribute nothing to the subject are included with works of original scholarship, and thirteen textbooks, including one of high-school grade, are listed. The narrative is generously documented and embellished by quotations, pictures, maps, and graphs, and supplemented by an extended documentary and statistical Appendix.

Mr. Overton's historical contribution would have been increased by greater unity of treatment. In the possession of such ample stores of interesting and often highly picturesque material, he is led to turn aside from his monographic labor to consider collateral topics and colorful episodes not pertinent to his theme. Background details, legislative and administrative policies, and descriptions of changing types of rolling stock—however significant and interesting in themselves—could well have been compressed or omitted for the purposes of this study.

The slips and omissions that have been noted are due mainly to carelessness in checking background facts and local details. William J. Sparks was Commissioner of the General Land Office not "Secretary of the Interior." The same James Harlan is given two separate entries in the Index as Secretary of the Interior and Senator. The noted Massachusetts lawyer "Edward R. Hoar" obviously refers to E[benezer] Rockwood Hoar. James Thorington, the first free-soil member of Congress from Iowa, should be mentioned in connection with the railroad land-grant of 1856, for which he received contemporary credit and discredit. Fairfield, Iowa, is in Jefferson not "Henry" County. Experience has not shown that the dry-farming system of Hardy W. Campbell has been "very satisfactory." The extension activities of the Burlington described in the concluding chapter should not be confused with colonization policies.

The author makes an obvious effort to maintain a judicial attitude but he does not disguise his feeling that the historians have overemphasized the gains and underrated the services of the railroads in the disposal of their lands. With the full record at hand, the case is strongly presented for this particular road.

The Burlington was no doubt somewhat exceptional in the standard of its leadership and in its foresighted and enlightened policies in dealing with settlers. None the less the road and its officials were not apart from their time and its business methods. Threatened repudiation to force a certain class of bondholders to convert presses hard the general interest argument. The manipulations of "town site companies" of railroad officials is too easily justified as a safeguard against irresponsible speculation. The extensive intermingling of church and denominational college establishment with settlement

promotions often conducted by ministers, as well as the subsidizing of clergymen and "professors" for various types of "oblique advertising," suggests the curious interrelations of God and mammon characteristic of Jay Cooke. But it should be said for the Burlington associates that their frankly avowed motive was always that of straight business. Incidentally, the opinion held at the time and since that certain Secretaries of the Interior were, for whatever reasons, partial to the claims of the railroads is given considerable justification by the rulings here recorded.

Of necessity the roads followed much the same techniques and practices; they were all a part of the "system" which was often one of trial and error. The B. and M. drew on the experiences of the Illinois Central and even more directly of the Hannibal and St. Joseph and frequent interchange of officials tended to standardize organization and methods.

Considering the limitations, public and private, under which the companies operated, definite conclusions as to relative "soundness" and expediency of particular policies are difficult to reach. What does stand out, in this as in other policies of land disposal, is the lack of definite information and reasoned plan by the government, the corporations, and the settlers. Mr. Overton observes that the question as to whether the development of the country in this way was premature is beyond the scope of his investigation—but it is an issue that cannot be ignored by the student of the economic and social history of the nation.

EARLE D. ROSS

Iowa State College

Economic Systems; National Economies

Russia's Economic Front for War and Peace, An Appraisal of the Three Five-year Plans. By A. YUGOW. Translated by N. I. and M. STONE. (New York: Harper. 1942. Pp. ix, 279. $3.00.)

In spite of a large number of books, pamphlets and articles on various aspects of the Russian development which have appeared since the outbreak of the Russian-German war, there has been no serious publication dealing with the economic problems of the Soviet Union. This gap has now been filled in a very satisfactory fashion by the appearance of the excellent study by Dr. Yugow. Although a political emigré—he is one of the foremost leaders of the Russian Social-Democratic Party (Mensheviki) which has been suppressed in the Soviet Union ever since the early twenties—the author was able to present a highly objective and unbiased history of the three five-year plans. The volume acquaints the reader with all the salient facts in the field of Soviet economics and thus provides a handbook which is particularly valuable at the present time.

The handbook character of this work, however, is responsible for some of its shortcomings. The treatment of the vast subject is organized in a rather infelicitous manner, and the individual chapters—dealing with industrializa-

tion, agriculture, internal commerce, foreign trade, finances, and so forth—tend sometimes to become repetitive and a little dreary. It is a pity, furthermore, that the author never refers to any writings except the ones in Russian, and it certainly would increase the usefulness of the book if its second edition included a bibliography comprising publications in the English language which—whatever their value—are more easily accessible to the reader in this country. Moreover, taking into account and discussing such non-Russian work (*e.g.*, Colin Clark, Dobb, Reddaway, Hubbard, the articles of Chossudovsky in the *Review of Economic Studies,* etc.) would have induced Dr. Yugow to broaden the scope of his investigations and to pay more attention to some theoretical issues which are of considerable interest to the non-Russian economist.

For example, the problems arising in connection with the determination of the size of the national income in an economy in which prices are fixed and goods allocated by a planning authority are not even mentioned by Dr. Yugow. Nevertheless, he uses the figures referring to the changes of the national income and hardly ever questions their significance.

In the same, rather uncritical way he speaks frequently about costs. "The cost of production in Soviet industry is much higher than that of foreign countries or of Russia before the First World War" (p. 39). If it is money cost which he has in mind, then everything would depend on the way in which he evaluates the Soviet ruble in terms either of the Czarist ruble or in terms of a foreign currency. As such a unique relationship between Soviet money and other exchanges certainly does and did not exist, and as the expression "ruble" has in reality always been an abbreviation for quite a number of legal tenders of different purchasing power (depending on the station in life of its possessor, the rations which he was entitled to claim, etc.), it appears doubtful whether it is useful to compare costs in the Soviet economy in monetary terms either with the pre-war costs in Russia or with costs abroad. The comparison would appear somewhat more justified, if the "real costs" (in the Marshallian sense) could be studied and confronted with "real costs" in other countries. But Dr. Yugow does not and presumably could not do this, as data on "real costs" are not easily construed, especially not for Russia.

Speaking of the turnover tax which plays a very significant part in Russian public finance, Dr. Yugow remarks that this tax is highly anti-social (p. 132). That is true, however, only if the inequality of income is very great. He believes, indeed, that such is the case (p. 258) but hardly tries to prove this contention. The degree of inequality and how it compares with other countries could be measured with the techniques of the Pareto or Lorenz curves, but such a research has—to this reviewer's knowledge—never been undertaken[1] and it appears rather uncertain whether it would yield meaningful results corroborating Dr. Yugow's opinion.

But all these more or less important drawbacks are fully compensated by the admirable clarity with which Dr. Yugow analyzes the main issues of the

[1] With the exception of a doctoral dissertation of A. Bergson filed at Widener Library (Harvard University) but unfortunately unpublished.

economic policy of the Soviet Union. The decision to devote about half of the national income to investment and armament resulted by necessity in privations to the civilian population. Shortages of all kinds and tremendous difficulties of administration were unavoidable. Disproportionalities in the growth of individual industries, troubles with respect to agriculture, hitches of various importance were the necessary concomitants of the terrific strain to which the economy of a backward country was submitted by political decision. Form and content of planning are interdependent. Planning for abstinence has to resort to different means from planning for welfare. The information which Dr. Yugow supplies shows what could have been accomplished, if houses could have been built instead of tanks and roads instead of fortresses. One can heartily concur with his hopes that after this war the Soviet Union, freed from the permanent threat of invasion, will be able to use the powerful mechanism of rational utilization of resources in order to secure a steady increase of welfare for her population and thus create the all-important condition for the growth of a free and democratic society.

PAUL A. BARAN

Washington, D.C.

Ekonomika Sotzialisticheskoi Promyshlennosti (Economics of Socialist Industry). By E. L. GRANOVSKII and B. L. MARKUS, editors. (Moscow: Akademiya Nauk, Institut Ekonomiki. U.S.S.R. 1940. Pp. 598. 10 rubles.)

This textbook on economics was written by a group of economists connected with the Institute of Economics of the Academy of Science of the U.S.S.R., and is intended for students in institutions of higher learning who already have had some background in economics and the history of national economy.

In the Introduction, the problems and tasks of socialist industry in Soviet Russia are discussed. The chief problems of the economics of socialized industry are those of an increase in the rate of capital accumulation and the development of factors which will bring about a change from socialism to communism. The solution of these problems will require a further extensive development of socialist industry as a whole and of its separate industries. The direction of capital formation is closely related to the selection of the size of industries, specialization and coöperation, combination, location of industries, and allocation of resources. The economics of socialist industry deals also with the most advantageous combination of large, average and small enterprises and relationships between them, as well as the achievement of equilibrium between industry and related fields. Among other tasks of the economics of socialist industry is that of studying the struggle of the party against the restoration of private capitalism, and to "struggle against bourgeois theories and opportunistic distortions in the field of science" (p. 13).

The material of the text is discussed in the following order:

1. Stages in the development of socialist industry.

2. Industrial program of socialist production, dealing with the volume of production; per capita production; comparisons with foreign countries, particularly the United States; the development of new industries; planning of the production program; allocation of resources; and distribution of goods.

3. Development of the technical bases of socialized production, including technical reconstruction and improvements.

4. Concentration, specialization, coöperation, and combination in industries.

5. The geographical location of industries and the distribution of raw materials. This is the most interesting part of the book, from the point of view of the reviewer, since it describes the location of the main industries, the state of their development and plans for their future development.

6. Capital formation in industries, that is, the amount of capital allocated to the development of various industries. The elements composing these funds consist of capital equipment.

7. Basic funds of socialized production. The process of production requires labor and means of production; the latter are the means of labor (capital equipment, buildings, etc.) and objects of labor (raw materials, semi-finished goods, etc.). The methods of valuation used are: (a) cost of production, (b) cost of replacement, and (c) cost less depreciation.

8. Productive capacity of industries, its use and seasonality.

9. Cost of production and quality of production. In the U.S.S.R. "the price of an article does not represent a monetary equivalent of the cost of its manufacture. Price is the basic lever for the redistribution of the national income and is determined in accordance with definite political and economic policies carried on by the Party and Government in relation to the stage of economic development of the U.S.S.R." (p. 498). For instance, before 1936 prices of metal and coal were below cost of production and the difference between cost and price was covered by the state.

10. Finances of socialized production and their control by the state. The sources of funds needed by industry come from: (a) income and savings of these industries, (b) credits granted by the state and industrial banks, (c) grants from the state budget. Part of the surplus realized from the sale of goods by an industry is turned to the state in the form of turnover tax. In 1937, the turnover tax from industry amounted to 60.6 per cent of the total revenue of Soviet Russia. The state bank grants credits only for (a) seasonal needs, (b) goods in transit, (c) temporary needs, and in some cases for capital repair. Credits granted by the bank represented 37.2 per cent of the total turnover funds of the industry on January 1, 1938.

11. The last part is devoted to administration and planning. The plan of every industry is actually a part of one over-all national plan. This planning is performed by several agencies which receive directives from the Central Committee of the Party.

The book contains a large amount of valuable material and statistical information depicting the enormous industrial development of the country within the last decade or so. However, its value is much impaired by criti-

cisms and attempted but impossible comparisons with the economic structure and operations of the capitalist countries.

M. V. CONDOIDE

Ohio State University

Canadian War Economics. By J. F. PARKINSON, editor. (Toronto: Univ. of Toronto Press. 1941. Pp. vii, 191. $1.75.)

This compact and interesting little volume gives us the story of the Canadian war economy through the middle of 1941. Among the contributors are Professor A. F. W. Plumptre (Organizing the Canadian Economy for War); Mr. Henry Borden, general counsel to the Department of Munitions and Supply (The Work of the Department of Munitions and Supply); Mr. J. D. Gibson, editor of the *Review of the Bank of Nova Scotia* (Financing the War); Professor K. W. Taylor, secretary of the Wartime Prices and Trade Board (The Wartime Control of Prices); Mr. B. M. Stewart, deputy minister of the Department of Labour (Wartime Labour Problems); Mr. L. Rasminsky, assistant to the chairman, Foreign Exchange Control Board (Foreign Exchange Control); and Mr. Tom Moore, president of the Trades and Labour Congress of Canada (Organized Labour and the War Economy). It is striking that practical men of business and academic economists coöperated so successfully in this venture. That they did also reminds one of their coöperation in the administration of the current war economy. In the Canadian war economy, however, the business men seem to be in control more than they are on this side of the border.

This volume is of particular interest to Americans because the Canadian war economy's shift to high gear precedes the American shift. We can learn much. As Professor Plumptre points out in his excellent introductory chapter, Dunkirk was the signal for an intensification of the Canadian effort as it was a warning to Great Britain that she must turn to Canada for more than merely educational orders in the armament field. Unfortunately, in the brief compass of this review, I cannot do more than refer to the excellent chapters of Professor Plumptre and Mr. Borden.

We turn then to Mr. Gibson's essay on finance. Approximately 40 per cent of the national income (1941-42) is required by the government. The expectation is that roughly one-half of the outlay by the treasury will be provided by taxation. This compares with an estimated outlay by the *federal* government in the United States of a little more than one-half of the national income in the fiscal year 1942-43, and the provision of two-fifths of the total expenditures or somewhat more than one-fifth of the national income by federal taxation. Total taxation (all governments) will, however, yield about 30 per cent of the national income.

Mr. Gibson presents a rather ingenious criticism of the point that in periods of unemployment the country should rely on sales of securities paid for out of additional money. Any failure to impose heavy taxes at this point encourages purchases of consumption goods with money earned in the out-

put of war goods. The effects are bound to be inflationary or (when diversions of resources to consumption goods industries follow) to result in a reduction of war output.

On two points, Mr. Gibson's presentation requires correction or amplification. First, he does not make it clear that the payment of taxes out of accumulated balances does not contribute toward a reduction of inflationary pressure; and, second, that the continued rise of production is not an infallible guide of the absence of inflation. Is a rise of output of 5 per cent and a rise of prices of 50 per cent noninflationary?

The next issues are raised by Mr. Taylor's essay on wartime control of prices. The Wartime Prices and Trade Board has ample power to deal with prices: licensing of middlemen, control of distribution, establishment of monopoly buying practices, fixing of prices, etc. In general, the Board has tended to keep prices down through improvements in the distributive process, control of margins, fixation of prices and deals with British buying monopolies. In the case of cod liver oil, however, the Board confronted with the loss of its most important source of supply, encouraged a large mark-up in prices in order to stimulate the saving of fish livers.

Mr. Taylor recognizes the functions of price changes in the economic system. He, therefore, objects to price freezing; but, on the other hand, he realises that, when demand arises rapidly and supply is inelastic in the short run, a rise of prices will not contribute greatly to the provisioning of markets. In the reviewer's opinion, Mr. Taylor overemphasises the contribution to price stability that may be made by adequate monetary and fiscal measures. At least, he fails to note that general measures (*e.g.*, a rise of taxation) directed toward specific scarcities, are wasteful, in that the required dose must be large relatively to the effect to be obtained. It is much better to cut prices and demand in each particular market where scarcities prevail. Then particular controls can be supplemented by general measures.

It is too bad that Mr. Taylor does not discuss the Canadian export price policy. Why are exports exempt from ceilings? Why are American purchasers of Canadian newsprint, for example, forced to pay what the traffic will bear? If the answer is the shortage of dollars, then it would still be better to keep prices down and provide Canada with Lease-Lend aid. It is particularly unfortunate that Canada encourages a high export price policy when the United States applies domestic ceilings to the export field. Finally, it is unfortunate for American policy makers that this book was written too late to enlighten us on the price freeze. I, for one, would like to know whether, because all prices are thus kept down and purchasing power continues to rise, the raids on markets are intensified; or whether the announcement of price stability drives potential buyers off the market. If both factors are relevant, which is the more important one?

Two chapters on labor problems, one by the deputy minister and the other by an important trade union official, reveal a difference of viewpoint on the all-important issue of the wage ceiling. Mr. Stewart seems to approve the limitation of wages to the 1926-29 level. Labor was treated well, for the cost of living had fallen 12 per cent since that period. It is provided, more-

over, that although wages do not automatically respond to a rise in the cost of living, adjustments will be made whenever the cost of necessaries of life rise. In this manner, labor is compensated for unavoidable increases in expenditures and yet the rise of wages is kept down to a minimum. Mr. Moore frankly says that the tie-up of wages with the cost of living (the quasi-freeze) was introduced despite the opposition of organized labor.

Perhaps the most brilliant and most helpful chapter in the whole volume is Mr. Rasminsky's contribution on foreign exchange control. Here we have an excellent statement of the Canadian balance of payments, pre-war and war; of the peculiar difficulties of the Exchange Control Board; and of the measures taken to protect the Canadian dollar. Canada's dollar pool became one of its most pressing war problems because it lost many of its former markets; because the United Kingdom, which could pay in free currency or gold only in part, increased its share of Canadian exports; because Canada, which launched on an all-out program long before the United States, had to increase its imports of raw materials at a disproportionate rate; and, finally, large economies in exports to non-sterling countries were required. The Canadians imposed severe restrictions on imports from non-Empire countries; introduced special measures to stimulate imports from sterling countries (thus saving dollars); stopped exports of capital in a much more vigorous fashion than the United Kingdom had; and finally, through the Hyde Park agreement, solved its dollar problem. Under this agreement, the Canadians agreed to provide large amounts of war materials to the United States; and the latter agreed to finance raw materials purchased by the United States for conversion into war orders of the British.

Professor MacGregor's chapter on "The Standard of Living" gives the reader some idea of the extent to which the Canadians have increased output and consumption and to what extent they have relied on capital consumption. A careful study of consumers' budgets suggests where they may be cut. As in the American case, it seems clear that the Canadians will have to take strong measures to curtail consumption and capital formation—as further expansion of output meets increasing obstacles.

This is a very helpful little volume, both because the problems faced are similar to our own and because we can profit from Canadian experience. They have faced many of the issues that now confront us.

SEYMOUR E. HARRIS

Harvard University

The Structural Basis of Indian Economy. By H. VENKATASUBBIAH. (London: Allen and Unwin, Ltd. 1940. Pp. 156. 7*s*. 6*d*.)

Critics of British rule in India, and particularly of Britain's economic policy in India, differ according to the angle chosen, the particular problem under consideration, and the intensity of the consequent result. They fall into three groups. One holds that the policy of the British in India has been definitely and naturally pro-British and anti-Indian. The second contends that they have

done much, but finds fault for their not having done more. The third school of critics who have lost faith in the existing economic order accuse the British for not only being anti-Indian but also as aligning their forces with the reactionary Indian elements—as the princes, the landlords, and the capitalists—and exploiting the poor millions. While Mr. Venkatasubbiah defies classification, he leans toward the second school of thought.

The present study is perhaps the first of its kind in discussing certain selected aspects of Indian economic development, bringing out the inherent conflict between the British imperial interests and those of the Indian people. The introductory chapter discusses the nature of Indian economic development in the light of and as shaped by India's peculiar cultural, institutional, and political forces. The second chapter analyses the occupational distribution of the people. Here the author has gone on the wrong track of assuming, without even attempting to define overpopulation, that India is overpopulated, and argues that in agricultural countries like India the problem of population should be studied more in the Malthusian sense than in the Marxian sense. While pointing out that the population problem in India is pressure on land, he ignores the importance of the twin remedies—the need for rapid industrialization and the extension of cultivation. The author maintains on insufficient data that population pressure exists because environmental conditions are limited in relation to the needs of these remedies.

The third chapter presents an original and interesting discussion of the basic agricultural economy of India. In tracing the historical evolution of the land revenue policy of the government of India, he brings out all the contradictions of the varied systems of land tenure that the vagaries of the British administrators have forced upon the country. In concluding this section the author points out that all these different types of land tenure were "historically created by imperialism for its dual need—progressive cultivation and regular flow of revenue." In practice the former objective has failed, but the latter has been realized to an abnormal degree.

The fourth and final chapter discusses the absence of progressive industrialization and traces the slow and tardy growth of a few Indian industries. Here is an excellent discussion of the problem of British capital in India. According to the author, "The British conquest of India was not of course the result of monopoly capitalism seeking markets, though the basis of earliest armed conflicts with native powers, particularly in Bengal, was economic exploitation. But when the mother country developed an industrial capitalism, its task was only made easier, since it possessed an already conquered territory, thus avoiding the necessity of fighting to gain a market."

In Appendix A there is a "Note on India's Industrial Potentialities in Relation to Her Mineral Resources." It opens with a highly surprising statement: "India is not so rich in minerals as she is usually boasted to be. A general impression has been created by which India's 'enormous mineral wealth' is assumed and 'the lack of enterprise to exploit them' is pitied." Any student familiar with the wealth of India's resources—potential and exploited—will disagree with this sweeping statement. Were this not a brief review, one could paint a factual picture of India's enormous resources on the

one hand and the failure and neglect to industrialize the country on the other. The reviewer is compelled to wonder whether the author is familiar with the publications of the Geological Survey Department of the Government of India. This statement of the wealth or poverty of India's industrial resources can at best be relative and can never be so absolute as the author states. It depends upon whether one is comparing India's resources with those of Japan or China, Canada or Cuba, Great Britain or Guatemala, the United States or Uruguay.

On the whole, Mr. Venkatasubbiah's book is original and well written. The author, who is a graduate in economics of an Indian university, is an associate of the New Fabian Research Bureau in Mysore. This study is a welcome addition to the meagre literature on this subject and should find a place in libraries of American colleges and universities.

S. CHANDRASEKHAR

New York

This Age of Fable, The Political and Economic World We Live In. By GUSTAV STOLPER. (New York: Reynal and Hitchcock. 1942. Pp. xx, 369. $3.00.)

In an impressive volume, which proposes to "be brutally intolerant of lies and insincerity" and whose "ambition [it] is to be popular but also to live up to exacting scientific standards" (p. xix), Dr. Gustav Stolper, formerly editor of *Der deutsche Volkswirt,* sets out to destroy the fables engulfing the minds of an unenlightened public, which in his opinion are responsible for the ordeals and disasters which have befallen our society. Fables, it may be said at the outset, are such theories, views, or arguments which do not happen to find the approval of Dr. Stolper. As there are very few pieces of equipment in our ideological arsenal which are acceptable to him, the number of fables which he is anxious to refute is almost legion. An amazing variety of subjects are treated in rather pompously written, but highly entertaining chapters, so entertaining, indeed, that for the uncritical reader they may disguise a host of fallacies, misrepresentations, and superficial half-truths potentially more dangerous than all the fables which Dr. Stolper desires to destroy.

Reducing his far-flung discussion to its simple and comprehensible kernel, we discover that the entire campaign against the fables boils down to the not wholly unfamiliar assertion that government should keep out of economic affairs. This fundamental contention is corroborated at some length by theoretical arguments and by a few "case-studies" of which the ones on the Soviet Union and Germany are the most outstanding. The digression into the "theoretical field [is] for the benefit of those readers who wish to enrich their knowledge on matters on which everyone talks so glibly and to immunize them against the writers whose fascination thrives on their brilliant ignorance" (p. 146).

Let us see how Dr. Stolper enriches and immunizes his reader. "Economic crises"—we learn—"are to modern society what sicknesses are to the human body. They are not the normal condition of our society, but they are a natural event in the same sense as sickness is natural in the life of a man"

(p. 146). Whereas most people would agree that prophylaxis and therapy have eradicated many sicknesses, Dr. Stolper thinks differently of the sickness with which he is concerned: "Alternation of better and poorer times cannot be helped and should not be helped" (p. 159). Omitting the question why it *should* not be helped, we may inquire why such alternation ***cannot*** be helped. The author does not leave us without answer. "As long as total investments (direct or indirect) are equal to our total savings the flow of income may go on undisturbed. The decline of business sets in as soon as investments shrink and a part of savings becomes unemployed" (p. 157).

What is the conclusion to be drawn from this statement which, while not "living up to exacting scientific standards," is at least approximately correct? That government should undertake expenditures to such an extent as to offset the deficiency created by the lack of net investment and provide thus for full employment of resources? Not according to Stolper. "Public investment," he says in his usual apodictic fashion, "cannot bring about a boom or, for that matter, full employment . . ." (p. 160). Because "the reduction in the income flow through oversaving cannot be remedied simply by creation of new money, as is popularly believed. Only if the new money induces new investments will its effects be salutary" (p. 159). The present economic situation, however, permits even the man in the street to study the influence of governmental spending on the level of output and employment, but Dr. Stolper has expected this argument and has his answer promptly at hand: ". . . the fact that the Government was so easily able to create boom conditions and full employment by a vast expansion of armament must not mislead to the fallacy that a peace boom is easy to achieve. The crucial difference is that an armament boom is something extraneous, imposed on a peace economy without competing with private business. . . . The amounts spent on defense might suffice to rebuild the American cities. But were this technically feasible and not in its early phases handicapped by shortages of certain categories of labor, it would create such a wholesale destruction of real-estate values that the effect would possibly be a depression exceeding in severity even that of the early 1930's" (p. 162). What does all this amount to? It amounts, at best, to the observation that if deficit spending, increase in public debt, etc., continue to play the rôle of bogey-men in the minds of some economists and business men, they are likely to be permanently counteracted by investment-strikes. The task of the government in that event will certainly become greater and the solution of the problem more difficult. The only lesson to be learned, however, is not that economists should increase the confusion by adding muddled "theories" about "crushing burdens of gigantic debt service" to the existing fallacies but should try hard to study the real implications of a fiscal policy directed at achievement and maintenance of full employment,[1] and help liquidate the fables which are peddled under the name of economic science.

While Dr. Stolper's resentment toward the New Deal and all progressive

[1] The reviewer is well aware of the difficulties and limitations inherent in such a fiscal policy and treats them in a forthcoming article.

economic thought is couched in forms of "scientific" arguments, his disgust for centralized planning in Russia breaks through in the form of unrestrained distortions. A few examples of the way in which he disposes of all the intricate problems presented by economic experience in Russia may suffice. "The result of twenty-five years of socialist Utopia is in supreme degree just what the socialists accuse the capitalist system of being: chaos and disorder, poverty, a total production at about the level achieved by 1914 before the First World War started, and this at the price of a lowering of the living standard (because of the enormous military expenditures), at the price of the enslavement of a great nation, of the degradation and humiliation of human dignity the like of which the world has not known since the days of Jenghiz Khan" (p. 65).

Does he really believe that a country sighing under the impact of chaos, disorder and poverty is able to wage a total war for nearly a year against the most powerful military machine the world has ever seen? And does our author, "brutally intolerant of lies and insincerities," expect that the reader is going to take what he says seriously if he maintains that Russia has today a "total production at about the level achieved by 1914"? That is said in spite of the existence of 500,000 tractors working on Russian soil and entirely produced at home, an airplane construction which makes it possible to withstand a German air offensive on a front of 2,000 miles, an output of steel which amounted to 18 million tons in the year 1940 as compared with 4.2 million tons in the year 1913, and coal mining which yielded 165 million tons in the year 1940 as against 29.1 million tons in the year 1913.

But Dr. Stolper is unimpressed. There was no necessity to increase production, no necessity to build up a powerful armament industry. "After 1921, once Czarist Russia's former allies had definitely given up their attempts to change the revolutionary Russian system by armed intervention the Soviets might have settled down peacefully inside their own sphere" (p. 281). Instead of behaving in such a prudent fashion, ". . . the Red Army has been served and pampered throughout" (p. 307). In addition the planners indulged in "transplanting of existing basic industries from the western parts of Russia to the center [the Urals, Western Siberia] and to the Far East" (p. 282).[2] In order to carry through such devilish—and superfluous!—projects the Bolsheviks disturbed the peasant, who before the First World War "quietly and contentedly . . . tilled the soil and fed himself and the cities . . ." (p. 280), and imposed unnecessary privations upon the population. "Soviet Russia chose without necessity to impose on her people that plight of initial accumulation over again, for now cheap capital from abroad was to be had" (p. 290). Certainly! Loans to Russia were, as everybody

[2] No existing industries were ever "transplanted." In addition to the development of the existing industrial districts, natural wealth of other regions was tapped, partly for strategic reasons, partly because iron ore can only be mined where it is available. On page 268, Dr. Stolper remarks indignantly: ". . . we look at the Siberian vastnesses whose hidden riches were exploited or neglected according to the selfish whims first of the Czarist, then of the Bolshevist Great Russian imperialists." Then it was not "transplantation" after all? And according to whose "whims" should these riches have been exploited? And since when is development of the natural resources of one's own country called "imperialism"?

knows, an especially attractive feature on the capital markets of the financial centers of the world, particularly at 24 to 36 per cent per annum.

Yet Dr. Stolper is not entirely against armament. "Under any system, it would seem, Russia could have afforded a first-rate army. But under a decent system it could, goodness knows, have afforded popular affluence as well" (p. 307). That is indeed an assertion which, if true, would heavily indict the policy of the Russian five-year plans. Unfortunately, there is nothing either in Dr. Stolper's book or in the historical experience of other countries to support this contention. France and England living under "decent systems," to use Dr. Stolper's terminology, had certainly more affluence than Russia. The fate of France is well known and England owes her survival to the existence of the Channel more than to any other single factor. Where would Russia, enjoying no such natural protection, be today had the Russian government followed Dr. Stolper's suggestions? It would seem that Dr. Stolper would not mind if the Germans were to replace the Communist regime. Since according to his theory of imperialism there is no such thing as colonial exploitation, the Russians ought, instead of fighting, to be grateful for the privilege of experiencing the benefits of the German "organizational genius."

Since Dr. Stolper's competence in matters economic and Russian appears, to say the least, rather dubious, let us turn to his discussion of Germany. There is a field where he is regarded as an authority. "Central Europe, in fact, has been socialized or nationalized ever since 1914" (p. 25). ". . . National Socialism in Germany and Fascism in Italy never were anything but socialist orders . . ." (p. 133). Everybody is perfectly free to define socialism and nationalization in any way he pleases. But the definition which is used has to be clearly stated, consistently applied, and, furthermore, make some sense. If governmental interference by itself makes a socialist society, then the term loses all analytical significance. Governmental control in the age of mercantilism was no less rigid than in the Germany of Weimar. It could hardly be said that there is no difference between the "socialism" of this German republic and the "socialism" as established by Hitler. According even to Dr. Stolper, there must have been some. Because, after we are informed that Central Europe has been socialized ever since 1914, we are told that "by that time [Spring, 1938] German economy was completely socialized in everything except the emptied title to property" (p. 327). That these "empty" titles to property still accounted in the year 1938 for 28 per cent of the national income[3] disturbs Dr. Stolper very little. Since Russia and Germany are equally socialist,[4] and since "not one single major war in the last one hundred and fifty years—the capitalist age—had its origins in economic causes or was waged for economic interests" (p. 192), one might ask, why they are fighting the present war. This quite important question for an author preoccupied with the "political and economic world we live in" remains unanswered. We are

[3] Maxine Y. Sweezey, *The Structure of the Nazi Economy* (Cambridge, Harvard Univ. Press, 1941), p. 208.

[4] "Ironically enough . . . this total war (as far as Russia is concerned) does not have to be fought against 'world capitalism' but on the contrary *with* world capitalism against a rival 'socialist economy' " (p. 307).

left just as unenlightened with respect to all other problems connected with German development since 1933. Analysis is replaced by findings such as this: "Hitler's uncanny instinct is his medium-like reaction to the oscillations of the German soul" (p. 317); "From Munich onward German diplomacy was almost grotesquely idiotic" (*ibid.*).

Such samples of factual information and analytical acumen could be easily multiplied. The reviewer regrets to be unable to point to, at least, a few bright spots in the darkness of *This Age of Fable*. He searched for "extenuating circumstances." He found none.

PAUL A. BARAN

Washington, D.C.

Business Cycles and Fluctuations

Investment and Business Cycles. By JAMES W. ANGELL. (New York: McGraw-Hill. 1941. Pp. xviii, 363. $3.50.)

Prospective readers of a book presumably are most interested in what they stand to gain from it. On this basis I believe we should go first to a group of three chapters (9-11) which, though not explicitly labeled thus, constitute Part II, devoted to the concept of the multiplier. Angell was one of the first to perceive Keynes's error in relating the multiplier to the propensity to consume,[1] since this treats planned saving as if it were all hoarded, and to insist that spending, whether upon consumer's or producer's goods, governs the relation between investment and income increments. The retention of Keynes's definition would indeed permit a *conceptual* distinction between the multiplying force running from a particular increment of public-works investment and *its own* effect upon income on the one hand, and multiplying forces running from any private investment on the other hand, such as might be functionally related to the increased consumption (acceleration principle) or to the increased public investment, or not functionally related to either (routine investment of savings). But if the Keynesian definition is retained, statistical operation is either stopped or utilized in a misleading fashion, since statistics of income will inevitably include the effects of these "other" forces. Angell's definition of a multiplier in terms of the propensity to *spend* not only supplies the actual arithmetic link between money and income—the income or circular velocity of money—but it also permits legitimate statistical operation with the available aggregative figures of money, velocity, and income.

Angell is thus able to utilize his extensive velocity analysis, developed over a number of years, to produce one of the really notable treatments of the multiplier to date. Arithmetically the average circular velocity of money is obtained from the separate velocities of active and hoarded money. Since on the one hand the velocity of active money can be assumed to be practically a

[1] Aside, of course, from the tautological and meaningless definition of this propensity in terms of the multiplier itself; *cf.* Angell, pp. 189-90.

constant through its being rooted in the payment *mores*, and since on the other hand the velocity of hoards is zero, any change in the average circular velocity is normally caused by a change in the relative proportions of active and hoarded money. Thus Angell is able to relate changes in circular velocity to the marginal propensity to spend (or hoard); and by reference to data beginning in 1899, to assign definite values to the latter through working out the average and marginal velocity figures. The results show a noteworthy long-run stability of average velocity and of the relation between money stock and income. Prior to 1929 the marginal and average velocities tended to close conformity at about 3 per annum; thereafter the average fell heavily to 1933, but again assumed relative stability at about 2.19; and the marginal velocities, indicative of increased hoarding, in comparison to the averages respectively for 1929-33 and 1933-39 stood at 4.99 compared to 2.61, and 1.75 compared to 2.19. Aside from short period changes such as those of 1929-33, Angell's equations permit the approximate forecasting of multiplier values. Finally, attention should be directed to his valuable distinction between the "vertical" and the "cumulative" multipliers, referring to its value per unit of time and through infinite time, respectively, and to the contrasting values of the latter under conditions of increasing, constant, and decreasing anticipations (pp. 196-97).

The noteworthy accomplishments of this analysis in relating the multiplier to the propensity to consume and in the statistical elaboration of this concept are in no way impugned by three critical observations which follow. In the first place, the conventional implication seems to have been a multiplier in *real* terms, but Angell has omitted the method of deflating his purely monetary figures. Secondly, while Angell correctly objects to the Keynesian multiplier on the grounds of its assumed constancy of the marginal propensity to consume, it is curious that he holds it to be "rigorously correct" if the latter condition is realized (p. 193), when he has justifiably altogether repudiated the correlation of the multiplier to the propensity to consume. Finally, there is the objection recently offered by Salant that the *lag* of the income effects of new investment cannot be mechanically derived from a period of monetary circulation— unless, I might add, people have no hoards, cannot borrow, or do not "anticipate" income. Otherwise an increment of investment at any point in the economy *may* give rise through favorable anticipations to an immediate increase of expenditures elsewhere, and thus to an immediate increase of income all the way around.

It is impossible to dwell upon the essays in the concluding three chapters, which in effect constitute a Part III on economic policies; just as it is impossible for the reviewer to do more than recommend their sound judgment and careful elaboration. The data presented in the last essay upon defense financing are now obsolete, but the general argument as to the possibilities of marked price advances have been justified by the developments of the past year. The essay on "Government Spending and Business Cycles" (chap. 12) shows the theoretical possibility of a miscarriage of the policy (pp. 211-21); reviews the history of public spending since 1931, which revealed a failure to

prime the pump (pp. 221-34); and finally weighs the dangers of increasing public indebtedness and the eligibility of other cycle controls, such as taxing hoards, central bank devices, and stabilizing the supply of money. In the chapter on "Secular Stagnation and Government Policy," Angell does not agree with the thesis that secular stagnation arises from "an alleged lack of investment opportunities in the purely technical sense," a position which has also been ably represented by Professor Fellner and maintained by others.[2] Angell objects that the closing of the frontier and the declining rate of population increase in the United States considerably antedated the onset of protracted depression; he calls attention to the potentialities of investment in new housing, and refuses to assume a prophetic rôle as to a dearth of technical advances in the future. On the other hand, the obstacles to international trade and finance and the developments under the New Deal adverse to private venture capital seem to him to be adequate to account for the hesitancy of investment. The only regrettable omission is the adverse effect of restrictive measures upon output, including government limitations and private monopolies. Professor Angell's analysis of the causes of lagging investment merits the close attention of all students of the problem.

Angell's theory of business cycles, presented in the first seven chapters of the book, resembles Keynes's more than Mitchell's in its readiness to reduce the whole story to the movement of a very few aggregative variables, a characteristic which is set in relief by the use of a series of highly simplified quasi-historical graphs somewhat after the example set by Kalecki. The great variety of forces such as are involved in Mitchell's description of the self-generating cycle, or in Haberler's painstaking analysis of the stresses and disproportionalities developing in revival or contraction and their complex interplay at the crucial turning points, gives place to the behavior of four magnitudes viewed mathematically as "functions" of anticipations—investment, consumption, income, and money balances. But saving, the chief devil in the Keynesian piece, plays no rôle nor do variations in the rate of interest. Initially (chap. 1) both investment and saving are defined in an *ex ante* sense as schedules of demand for and supply of investment funds; thereafter a curve representing the equilibrating points of a series of such schedules is first labeled "D, S" with a note (p. 25) to the effect that it carries no implication as to the equality or inequality of saving and investment, but later the function is called simply "investment." Somewhere in the process *ex ante* saving and any possible contrasting behavior with *ex ante* investment get lost for the theory, though in a completely covert form they play a very significant rôle in the behavior of hoards. Whether by accident or design the Keynesian propensity to consume also disappears;[3] indeed the diagrams (pp. 34, 37) show consumption

[2] William Fellner, "The Technological Argument of the Stagnation Thesis" *Quart. Jour. of Econ.*, August, 1941, pp. 638-52; Sumner Slichter, "The Conditions of Expansion," *Am. Econ. Rev.*, Vol. XXXII (March, 1942), pp. 1-21; Howard S. Ellis, "Monetary Policy and Investment," *Am. Econ. Rev., Suppl.*, Vol. XXX (March, 1940), pp. 27-43.

[3] Except when the author inadvertently uses this term when he actually means to employ his own concept of "propensity to spend," *e.g.*, pp. 97, 100, 258, 283.

increasing more slowly than income as functions of rising anticipations up to a certain point, but thereafter more *rapidly,* the direct opposite of the Keynesian supposition.

Chapters 5 and 6, setting forth the reasons for abandoning interest rate variations as causally significant for cyclical variations, will puzzle many a reader. Angell distinguishes three concepts: (1) *expected* yields on new investment, (2) *expected* yields on existing assets, and (3) the interest rate, defined as "the current" (or "the market") rates of yield which can be obtained by the purchase of equities (or "physical assets") at current prices. Keynes, he believes (p. 41), represents the amount of new investment as the result of an "equilibrium" (*sic*) between the first type of yield ("the marginal efficiency of capital") and the third type ("the interest rate"); but, says Angell, interest rates (3) are never except accidentally equal to (2) and *a fortiori* are not equal to (1). "The potential purchaser's actions are determined by a comparison of *expected* yields on new investment and on existing assets, but not by a comparison of either of these with current *market* yields on existing assets."[4]

Actually Angell's (1), (2), and (3) are all the same, the marginal efficiency or productivity of capital, and nowhere does he have a rate of interest as a contrasting concept. For surely it is the expected yield on *new* investment (1) which sets the expected yield on *existing* assets (2), aside from the survival of incorrect and by-gone evaluations on the latter which Angell nowhere posits; and as surely it is the *expected* yield on assets (1) or (2) which sets the current *actual* (or market) yield on existing assets (3), unless current valuations have no reference to the future, which cannot be Angell's contention. The "interest rate," as a contrasting concept, is not the yield on *assets,* present or future, but the return on a *money* loan (4). Yields on assets represent the productivity or marginal efficiency of real capital (the "real," "equilibrium," or "natural" rate) in contrast to interest on fluid funds (the "money" rate, or in Keynesian terms, "the" interest rate). This is the necessary contrast which has prevailed from the time of Ricardo through Wicksell to Keynes. Moreover, no one of these writers, including Keynes, maintained a necessary equality of (1) and (4), which Angell incorrectly described as (3): it was a *divergence* which accounted for investment. And it is *this* divergence which is roughly indicated by the contrasting behavior of long-term bond yields and short-term loan rates, which is Angell's only recourse to empirical data in this discussion (p. 45, n. 1).

After this unfortunate excursus into concepts, Angell touches—altogether too briefly (pp. 50-52)—upon the *real* reason for limiting the rôle of interest rates in determining investment, *i.e.,* the importance of other costs, and of variations in expected demand. Finally Angell objects to the Keynesian theory of interest itself on the grounds that market rates and money stock do not move inversely, liquidity preference being constant. The present writer does not view the Keynesian theory as a complete explanation of interest, though

[4] P. 49. The italics are Angell's.

liquidity preference is of course one element. But Angell seems to confuse changes in the liquidity function itself with movements along the schedule (pp. 62-63), which is what Keynes means by a constancy of liquidity preference; at any rate Angell accepts the Keynesian inverse relation of money and interest in an ensuing paragraph (p. 63, bottom).

The abstract theory of business cycles culminates in a "Description of the Cycle" (chap. 8), half of which pertains to the upper turning point (pp. 92-113), two pages to the lower turning point (pp. 113-15), and the rest to general observations on self-generation, exogenous factors, etc. And it is precisely upon this much-emphasized upper turning point that the theoretical structure is weakest. According to one version (pp. 93-95), the downturn comes about "inexorably" (pp. 99-100) through three forces: (1) an adverse development of costs relatively to prices; (2) a short-run "saturation point" in particular fields; (3) the decrease of the marginal propensity to *consume* and increased hoarding. We learn later (p. 110) that this development is *not* inevitable; that for a time, so far as concerns force (2), investors may turn to other fields; by consequence, aside from rising costs (1), the over-all limitation comes in force (3). But so far as concerns hoarding, more particularly, he elsewhere argues convincingly that "after the expansion is well under way, people hoard little or none of any current *increases* in income but spend all of them either on consumption, or increasingly, on investment," and even a temporary set-back will not prevent the maintenance of current consumption and programs of investment (p. 200, his italics). Indeed the most plausible hypothesis seems to be that the downturn comes in expectations, plans, and the placing of advance orders; the reduction of current spending (*i.e.*, hoarding) comes, as Angell proved statistically in *The Behavior of Money* (pp. 125, 126, 158, 159), "with or after, not before" the peak of most measures of economic activity.

Retrospectively over these chapters, the net yield for the development of cycle theory seems rather meager. Angell's insistence upon the rôle of velocity in increasing the amplitude of cyclical variations offsets the curious intransigeance of Keynesians upon this point; and he is right furthermore in his scepticism of the dominating position sometimes assigned to interest rate variations. The contrasting behavior of *ex ante* saving and investment may have been overemphasized by certain schools, but it may be doubted whether it should be completely abandoned. For the rest, the theory consists essentially in a rigorously simplified version of the acceleration principle and the introduction of "anticipations" as a uni-dimensional independent variable. One is left wondering whether the simplified schemata do not sacrifice too much of the descriptive and analytical value of the recent extended literature on these subjects.

It is to be hoped that the reviewer's lack of enthusiasm for one half of Angell's volume will not interfere with an appreciation of the really distinguished services performed in the second portion.

HOWARD S. ELLIS

University of California

Public Finance; Fiscal Policy; Taxation

American Public Finance. By William J. Shultz. 3rd ed. (New York: Prentice-Hall. 1942. Pp. xxiii, 874. Trade edition, $6.00; school, $4.50.)

In spite of the large number of pages in this book, when its format and the space devoted to tax forms in the Appendix are taken into account, it represents one of the briefer treatments of public finance now available. The field, however, is covered in a clear and concise manner. Especially to be commended is the emphasis placed upon the constitutional and legal background necessarily to be taken into account in the development of revenue systems. Ample evidence is presented that "judges are methodically ignorant of what everybody else knows to be true." The attention which is called to the problems arising from intergovernmental relationships is timely, since such problems will undoubtedly assume greater importance in the years immediately ahead.

In some treatments the reader undoubtedly will desire a fuller discussion of the economic consequences involved in addition to the treatment of administrative problems which the author gives so adequately. For example, especially in these days of war financing, a more adequate treatment of the economic consequences of taxation in comparison with borrowing as a method of financing an emergency would be helpful. The question may be raised as to why a chapter should be called Highway Taxes when other chapters are called Property Taxes, Income Taxes, etc. Certainly highways have not been used as a base for taxes, but taxes levied upon other bases have been spent for highways. Other questions, such as using cost as the distinguishing characteristic between a tax and a fee, might be raised, but they would deal with details rather than with the main purpose of the book. In this treatment of American public finance, Professor Shultz has performed a commendable service.

Merlin H. Hunter

University of Illinois

Money and Banking; Short-Term Credit

Exchange Control and the Argentine Market. By Virgil Salera. Stud. in hist., econ. and pub. law no. 485. (New York: Columbia Univ. Press. 1941. Pp. 283. $3.50.)

The history of exchange control in South America offers a rich field for the economist, but up to the present, literature in English has dealt almost exclusively with European experience. Dr. Salera's pioneer study traces the development of Argentine exchange control from its beginning in October 1931 to the middle of 1940. Argentina abandoned the gold standard in December 1929 and for nearly two years had a free exchange market. The immediate occasion for the establishment of exchange control was not a flight of short-term capital of the panic type so common in Europe in that period, but the

withholding of their foreign bills by the great cereal export houses, with a consequent reduction of the supply of exchange.

In its original form Argentine exchange control involved no discrimination as between countries, but inside of two years it became a means of flagrant discrimination against American trade. British exporters had been steadily losing out in Argentina, largely to American exporters, but the United Kingdom continued to be the best customer of Argentina, and in the late 1920's and early 1930's British imports from Argentina had been over twice its exports to that country. With the adoption of protection in Great Britain in 1931, and the trend toward Empire bilateralism represented by the Ottawa agreements, Great Britain, by threats and pressure that savor far more of rough-handed German methods than of the English tradition of commercial policy, forced Argentina to discriminate against American trade in favor of British trade. This was done by granting exchange for imports from Great Britain at a lower rate than for imports from the United States, by surcharges on American imports, by purchases by government agencies in Great Britain at substantially higher prices than those quoted in the United States, and by import quotas.

Salera thoroughly documents his thesis that the British were largely responsible for pushing Argentina to its extreme forms of bilateralism. Those who think of German bilateral trade policy as the principal obstacle to the acceptance of the Hull trade policy in South America will find this account a revealing and perhaps a disillusioning one. Salera's conclusion is that Argentina is not likely to return to a nondiscriminatory commercial policy by British initiative (p. 245), but that the United States, by its tariff policy, and a relaxation of the present arbitrary quarantine regulations, could reduce Argentina's dependence on the British market, and play a positive rôle in bringing an abandonment of narrow bilateralism in South America.

Salera makes the well-taken point that Argentine exchange control cannot be appraised in terms applicable to European experience, and states that "there has not been the slightest attempt to pervert exchange control to the furtherance of totalitarian ends" (p. 253 n.). The study also indicates little attempt to use exchange control as a substitute for tariffs in building up local industries.

The story that Salera tells is well worth telling, and the book represents careful research and competent analysis. It is unfortunate that the manuscript was not subjected to a rigorous editorial revision before publication. As it stands, the ponderous style oversteps even the standards charitably applied to doctoral theses. References to British and American exports to Argentina as "originations" (p. 239); "the proliferation of discriminatory preferences" (p. 147); an "unwithstandable" temptation (p. 177); peso appreciation "inexorably on the march" (p. 185); the authorities that had "given birth" to a classification (p. 221); and "the maintenance of a dual market type of exchange control in the free market of which the whole gamut of transactions might be consummated" (p. 201), are a few samples of what the reader faces if he is to battle his way through the book.

FRANK WHITSON FETTER

Haverford College

Ceylon Currency and Banking. By B. R. Shenoy (Madras: Longmans Green. 1941. Pp. xl, 300.)

This book dealing with the history, institutions and problems of Ceylon's currency and banking is designed for students of monetary problems not only of the island of Ceylon but also in a general way of India. While there is a fairly large amount of literature discussing the problems of Indian money and banking, there has been no complete and scientific study of Ceylon's monetary problems. Ceylon, though not under the government of India, has rested in the shadow of her great neighbor. Recently, however, since she was placed upon the agenda of Japan's aggressive expansion, keen interest has been evinced in the peoples and problems of the island which has a population as large as that of the continent of Australia. While this book does not discuss the political institutions and economic problems of the island, the treatment is broad enough to indicate the general economic problems of Ceylon. In this respect it fills a long felt gap.

The first two chapters, nearly forty pages, trace the island's currency history, embracing the successive rule of native, Portugese, and Dutch administrations. The author in his Preface expresses his hesitation in retaining this material in the book. While it is true that the subject matter concerning the genesis and growth of the currency system is the special concern of the numismatist and the currency historian, it has interest for even the general reader and serves as a desirable introduction for the currency system that exists now under the British rule in Ceylon.

The next two chapters deal with the monetary problems that the early British rulers were confronted with and how they attacked them. There is a discussion here of the events that led to the appointment of the Swettenham Currency Commission of 1869 and the Lascelles Currency Commission of 1902, their respective recommendations and the government's action thereon. The fifth chapter enquires into the island's paper currency.

The three succeeding chapters present an able and interesting exposition of the banking systems and problems in Ceylon. The exchange banks, the joint stock banks and the indigenous banking—all receive due attention. All the exchange banks in the island are entirely British, unlike India where there are several non-British exchange banks. Apart from the branches of the Imperial Bank of India and the special position of the Reserve Bank of India, in Ceylon, there is only one Indian joint stock bank in Ceylon. The author has dealt briefly with Chettiar banking in Ceylon. The Chettiars of South India form a commercial caste and are a banking community. They have done pioneering work in this direction in most Asiatic countries. According to some critics they are very welcome since they provide cheap short- as well as long-term credit. Others consider them unscrupulous exploiters. There has never been a scientific and impartial study of their banking methods in the light of modern conditions. I wish the author had given more space to this question, since the foreign student is more interested in this institution than in the joint stock and exchange banks with whose operations he is more familiar. It would also have been well for the author to explain Indian terms, such as *Hundis,* for the benefit of the American student.

The last two chapters deal with the (Draft) Paper Currency Ordinance of 1939 and the present position of the Ceylon rupee and its relation with the Indian rupee and British sterling. The book closes with an excellent discussion on the case for and against the creation of a central bank for Ceylon. The present exchange control regulations of the island, introduced to meet the war situation, form the subject of an Appendix. Sir Cecil H. Kisch recommends the book in his Foreword.

The author, a graduate of both an Indian University and the London School of Economics, is now a lecturer in economics at the Ceylon University College, Colombo, and as such is well qualified to write this book. This study, the first of its kind for the island, is scientific, clear, and informative and as such is a welcome addition to the meagre literature on the monetary problems of countries in the East.

S. CHANDRASEKHAR

New York

Business Finance; Insurance; Investments; Securities Markets

The Investor and the Securities Act. By HOMER V. CHERRINGTON. (Washington: American Council on Public Affairs, 1942. Pp. x, 253. Cloth, $3.25; paper, $2.50.)

Dr. Cherrington, professor of commerce at the University of Iowa, has limited his examination to the Securities act of 1933, the so-called "Truth in Securities Law." Although he recognizes the disadvantage of the private investigator who does not have access to the files of the Securities and Exchange Commission, the author thinks it worth while to use the available information for an appraisal of the law and its administration to date.

The book opens with a discussion of the evils which were responsible for the legislation. The closing chapter reviews the results of the legislation in relation to each of these practices. Other chapters deal with the proposals for reform prior to 1933, and an outline of the provisions of the law and the work of the Commission. A brief examination of the British experience is sandwiched in between these chapters. The remainder of the book surveys the most significant forms of misrepresentation with which the Commission has been confronted; the position of underwriters and the problems of underwriting; and the responsibility of accountants under the Commission's rules and decisions. The material is well selected, and the presentation is clear; the treatment, in spots, is sketchy. The book also suffers from the effort to assess the relation of government and the investor without considering the pertinent legislation in its entirety.

The comparison of the Securities act and the English experience is serviceable. It shows how much further we have gone in our attempt to protect the investor. Perhaps our tardiness explains the difference. There is an interesting recital of some of the earlier and generally forgotten suggestions for reform in the financial world. Omission of the late Justice Brandeis's work

in this direction seems strange. The treatment of such topics as "beating the gun" in the sale of securities and private placement is realistic. The author seems to take no definite position with reference to the waiting period. He perceives the irony implicit in barring the small buyer—both institutional and individual—from investing in the many high-grade issues sold privately to large institutions in increasing volume. Dr. Cherrington, however, produces no evidence that this tendency has arisen solely out of the provisions of the Securities act. The litigation in connection with the liability of underwriters does not seem to justify the impression that the provisions of the law are unduly harsh.

The letter of deficiency requesting amendments in registration statements is a potent instrument of administrative policy. The Commission has discretion to decide whether or not amendments may postpone the effective date of the registration statement. Yet, as the author points out, in the absence of a formal dissent, it is not ordinarily possible without examination of amendments to individual statements to determine how the Commission has handled the particular deficiency problems (p. 139). He remarks: "A democratic society is in a potentially dangerous situation when the policies of an administrative agency which has far reaching power to regulate capital markets can be known only by those who are on the inside." No alternative is proposed. The suggestion is made that the Commission should go further in providing investigators with information, since they are confused by the prolixity of the usual prospectus. Dr. Cherrington thinks that investors inescapably tend to regard the registration of securities as evidence of the Commission's approval.

I must take issue with the conclusion that the flotation of new securites by small corporations has been severely handicapped by the costs growing out of the requirements of the Securities act. This is a hardy myth. The exemptions of small issues are duly described by the author (p. 108). The costs of flotations of relatively small issues shown in detail in the published studies of the Commission prove conclusively that by far the greatest item of expense is the underwriting fee, or selling commission. The costs of registration, including legal, accounting and engineering expenses, are small.

The book contains an index and a bibliography. Unfortunately, the recent hearings on amendments to the Securities act before the House Committee on Interstate and Foreign Commerce on H.R. 4344, etc., have added substantially to the data which could have been used. Nevertheless, this study will serve those who wish to consult a brief, general survey.

RUDOLPH L. WEISSMAN

New York

The Voting Trust: A Device for Corporate Control. By JOHN ANTON LEAVITT. (New York: Columbia Univ. Press. 1941. Pp. 216. $2.50.)

The amount of economic literature devoted to the voting trust has always been relatively limited. The appearance of Mr. Leavitt's book is therefore

welcome, although it does not pretend to be a treatise on the subject nor within its modest scope is the treatment free of certain shortcomings.

The primary concern of this study has been to examine the voting trust in relation to the locus and administration of control within the corporation. The voting trust is depicted as a device whose prime characteristic is the "fixing" of control in the hands of a specific group—a result which is achieved by an exchange of stock for trust certificates between stockholder and trustees, whereby the former relinquishes to the latter his right to vote. Sometimes this amounts only to perpetuating the control already exercised by a management group; on other occasions the control may actually pass from one group to another before it becomes crystallized. Aside from two brief chapters on history and legal status, the author has devoted his attention largely to exploring the nature of this device, the methods by which it transfers and fixes control, and some of the implications of its adoption.

In one chapter, for example, are described in unusual detail the provisions which have customarily comprised the voting trust agreement. Included are over twenty subjects, covering everything from the preamble down to the various methods by which a trust may be terminated. Another chapter is devoted to a consideration of the uses for the voting trust. A group found to occur most frequently are those associated with corporate reorganization, at which time prior creditors or bankers often insist upon the creation of a trust in order that they may be assured of the quality and stability of the management until the enterprise is thoroughly rehabilitated. Its applicability to new corporations and to public control of old ones (*e.g.*, to expedite the dissolution of a combination) is also considered. The positions of the trustee and of the security holder are accorded consideration in two additional chapters. On the one hand, the trustee is found seldom to be a heavy stockholder, frequently to represent banking groups, and to have interests not necessarily identical with those of the corporation. The stockholder, on the other hand, having forfeited his franchise, is no longer able to protect his interests against possible encroachment nor even to inform himself as to whether they are in jeopardy.

The voting trust is thereby demonstrated to be one more device for separating ownership and control of corporations and concentrating that control in relatively few hands. It not only offers no guarantee of sound management; it openly invites abuse. Accordingly, if its use is to continue, the author recommends a more careful regulatory policy, especially in the direction of securing a shorter life for the average trust, providing more publicity concerning trust activities, and reducing the immunity of the trustees.

Restricted though the scope of this study is admitted to be, it leaves much to be desired both in form and content. The general structure could have been considerably improved by the inclusion of a concise introduction, by the relegation of countless illustrative cases to footnotes or summary tables, and by more careful organization throughout. Among the more noticeable substantive shortcomings are a failure to give sufficient attention to the real estate trust and a tendency to provide categorical answers to many of the

issues raised when a further resort to facts seemed warranted. Nevertheless, this volume contributes some very worth-while exploratory and taxonomical spadework.

JAMES B. ECKERT

Washington, D.C.

The Securities Market and How It Works. By BIRL E. SHULTZ. (New York and London: Harper. 1942. Pp. ix, 433. $5.00.)

The Stock Market. By CHARLES AMOS DICE and WILFORD JOHN EITEMAN. 2nd ed. (New York and London: McGraw-Hill. 1941. Pp. xvi, 486. $4.00.)

The Securities Market and How It Works is an outgrowth of the course until recently given by the New York Stock Exchange Institute for employees of the Exchange. A more advanced text than its predecessor, *Stock Exchange Procedure,* the present volume is designed to cover the more "fundamental and technical" aspects of the securities market. It is especially addressed to those engaged in some phase of the securities business and their customers as well as providing a text for college classes. The editor and senior author was formerly director of the New York Stock Exchange Institute, the predecessor of the present New York Institute of Finance. As collaborators he had certain members of the institute staff and individuals connected with prominent brokerage houses.

Although there is no such formal division, the treatment falls logically into three parts. The first deals with the history and functions of the stock exchange, especially the New York Stock Exchange, history and procedure of listing securities, and types of securities and their flotation. The second division has to do with the procedure of trading in stocks and bonds on the floor of the Exchange, covering such items as the execution of orders, specialists, odd-lot trading, short-selling, etc. The third division treats of the procedure in the brokerage office in connection with customers' orders and accounts. It explains the mechanics of opening and handling of accounts, commissions and taxes, preparation and analysis of the customer's statement, margin regulations and practices, clearance and delivery of securities, etc., while also giving an introduction to financial statement analysis. A concluding chapter deals briefly with some current problems of the Exchange.

Every step in the complicated procedure of the security markets is explained in pointed detail and clarified by innumerable illustrations. One gains the conviction as he reads that here, for the first time, is available a thorough and authentic treatment of the technical business and procedure of the securities markets written from the inside. It deserves to succeed all previous books of a similar nature.

At the end of each chapter is found a list of questions and tests especially designed for candidates for employment or promotion within the sphere of the brokerage and exchange business. To many readers this volume will come as a revelation of things long desired but until now unobtainable.

The Stock Exchange is a second edition of the senior author's earlier work of the same name and follows in its chapter headings the plan of the first edition. One more chapter on "The Price of Stocks" is added.

The reader will welcome a more than doubling of charts and figures, while noting the omission of numerous tables found in the first edition and also a contraction of the Appendix on "Stock Market Terminology." Illustrative material has been brought down to date, which adds freshness to the treatment.

The volume, like the first edition, is written from the customer's point of view and deals not so much with technical procedure in the mechanism of the market as with the relationship of the customer to the market. Interest is maintained in security price movements as exemplified on the exchange. The analysis of causes, however, remains restricted as in the first edition.

In the final chapter (which is new) the traditional theory of the relationship of price to earnings is treated but too briefly and inadequately, as are also the principles of growth stocks and leverage. More valuable is the new material dealing with manipulation and the federal acts of 1933 and 1934 relating to securities and exchanges which has been included.

J. E. Kirshman

University of Nebraska

Public Control of Business; Public Administration; National Defense and War

The New Economic Warfare. By Antonin Basch. (New York: Columbia Univ. Press. 1941. Pp. xvi, 190. $1.75.)

This series of lectures delivered at Columbia University in the summer of 1941, is a broad and not very analytical discussion of war economics, totalitarian organization of economic affairs, and world politics. One chapter (the fourth) is devoted to the topic announced on the cover: economic warfare. The most valuable parts of the book are the descriptions of economic policies of nazi Germany and Great Britain. While the specific problems of the war economy are well seen, the fundamental economic changes of our time, which form the framework of the present experiments in war economics, do not find clear recognition, and little is done to give a meaning to the observed failures and successes.

In the first chapter, dealing with economic preparation for war, Dr. Basch limits the discussion to the preparations of nazi Germany and the explanation of their success. The economic causes of war receive a very superficial treatment. The author points to a list of maladjustments in international trade relationships before the present war; but he does not seem to see any logical connection between the spirit of the Versailles Treaty and the economic and political conflicts that developed. Given a longer lease on time,

Basch argues, the ideas of Versailles might have led to a workable world system; unfortunately, their execution was "handicapped by all the repercussions of the war" (p. 4).

This argument seems futile. If a political world system meets the problems of the time, it will scarcely need more than twenty years before it begins to manifest its power. The conditions created by the treaty favored the development of rivalries and new conflicts, and there is only too much agreement between its spirit and the futile attempts of the victorious powers to smother the explosive forces in the world while providing new fuel for them. Firmly anchored in the Treaty of Versailles were the policies to rebuild a powerful German capitalism while withholding from its masters a share in the ruling of the world, to erect a barrier of satellite states around Germany without providing for their prosperity, and to liberalize the colonial system without heeding the demands for industrialization and political independence of the colonial peoples. After these policies had developed their full effect and the great depression had disintegrated the leading nations, the nazi plan of world conquest and its early successes were a logical development. Dr. Basch limits himself to observing the outcome of this process. The absence of concerted opposition to nazi expansion, its temporary encouragement by "democratic" diplomacy, remain as unexplained as aggression itself.

Chapter 2 gives a summary of typical problems of the war economy. Dr. Basch stresses the impossibility of carrying on total war without drafts on civilian consumption and the nation's material wealth, and shows the limited usefulness of anti-depression policies in wartime, when the achievement of victory is the supreme goal. He sees no way in which the principles of private business can cope with the war situation: "All productive equipment, all industry, is to be treated as if it were one big enterprise governed from one place and by one set of principles" (p. 69), a condition which he sees already reached by Germany and Great Britain in the present war. Careful students of war economics will agree with these observations.

One minor point may be raised in connection with this chapter. Although the state assumes the rôle of a monopolistic supplier in certain fields, one wonders how "monopolistic price theory may be applied in determining optimum prices . . . under which the national economy would best meet the war requirements" (p. 49). Does Dr. Basch propose that the British government sell wheat to the people at prices that net a maximum profit to the treasury? Perhaps, the author has been thinking of monop*sony* rather than monopoly; rational monopsonistic policies may be very useful if applied by the procurement agencies of the military forces.

Chapter 3 gives an account of important features of the British and German war economies, and chapter 4 discusses economic warfare. Some important facts are clearly seen. Dr. Basch states that Germany's "economic position as a whole, even for a long war, was . . . stronger than in 1914" (p. 129). (This seems to refer to the end of 1940.) Systematic preparation and organization of available resources, military strategy determined by the principle of speedy successes over one enemy after the other, efficient exploitation of

conquered territories brought about this result. Although it is far from being a consumers' paradise, nazi Europe cannot be conquered by economic strangulation, useful as this method remains as a companion of military blows.

The author arrives at the conclusion that structurally the German and British war economies show a great deal of similarity. Both countries adopted anti-inflationary fiscal and price policies. The remaining differences between the two systems can be explained—to some extent—by the delay in the starting of the British war economy.

There are a few minor points in the discussion of the German war economy that may attract criticism. The rôle of price control in the German war economy seems somewhat exaggerated when described as "the most important item in the general policy and especially in war financing" (p. 74). Given the immediate control of industrial production by the state and the existing fiscal policy, price control appears of comparatively small importance. It might better be described as an auxiliary tool.

Although Dr. Basch recognizes the comprehensive economic control power of the nazi government, he expects trouble from the huge savings deposits that are accumulating in Germany. True, if the immense blocked purchasing power were suddenly released, it would upset the markets for consumption goods. But are there any reasons to suppose that it will be let loose during the war? And if the release takes place after the end of the war, is it so difficult to bring about a gradual transition? At present, at any rate, one can hardly agree with Dr. Basch that these savings indicate a serious weakness in Germany's noninflationary financial policy; they are one of its main pillars. It seems that the inflationary dangers inherent in the increase of the Reichsmark circulation are similarly overrated. If we are interested in finding real instead of imaginary weaknesses of Germany, we should turn to an analysis of transportation and other practical problems of the nazi war economy. Dr. Basch's book, unfortunately, does not give much help in this direction.

Chapter 5, "From War to Peace," is devoted to an examination of nazi plans for the post-war world and reflections about democratic peace plans. The problems of transition from war to peace are scarcely touched. The best part of this chapter is the matter of fact account of the nazi schemes and their partial realization in the occupied countries.

The criticism of the nazi scheme is extremely weak. It is said to be "materialistic," not to respect "basic human rights"; but there is little about the problem of its compatibility with the trends in the world economy. The juxtaposition of a "free world based on an international exchange of commodities and following fundamental economic principles . . . a world in which the principle of legality must be made to prevail again" does not add to the force of the criticism of the "New Order." What type of international society? What fundamental economic principles? Whose laws?

Dr. Basch does not choose to answer these questions, except by reference to an old political scheme and a very vague program. The old political scheme is the federation of the Danube countries, an idea once held dear by French

governments, some of the states of the Petite Entente, and cherished up to our days by the house of Hapsburg. This idea never seemed to satisfy all of the nations involved; it was discarded time and again in the twenty years following Versailles since it never found the powerful sponsor that could put it into practice and maintain it against the opposition. Moreover, this idea never provided a solution to the basic European problem, which is the problem of Germany. The same is true for the Oslo block which Dr. Basch seems to recommend for resuscitation. If the "United States of Europe" do not provide a solution, as Basch intimates, only a still larger block of united nations will. Regional sovereignties within Europe belong in the pre-airplane age.

Dr. Basch's economic program is neither new nor realistic. It aims at a marriage of state control and capitalism in which both spouses are expected to reign supreme. In the "negotiated free economy" that he proposes, the state is supposed to prevent unemployment while private enterprise governs the remainder or, as Dr. Basch says, the major part, of economic life. This looks like the old devil in new disguise. State interference designed to prevent unemployment effectively means state control of production and investment planning. Fiscal and monetary policy will do only as long as the government does not feel under an absolute mandate to do away with unemployment. Only if the state is willing to risk the recurrence of depressions, can it leave the planning of production with uncoördinated corporate and governmental agencies. Private capital does not flourish in the atmosphere of "limited" state interference where it is supposed to assume risks without holding the supreme command. The result of this form of arrangement is too fresh in people's memory to make the plan respectable: government hamstringing business, and business hamstringing government. How the two rivals that tend to paralyze each other in protracted struggle can be turned into an efficient team, Dr. Basch fails to show. He refers the problem to the democratic nations.

In some places it seems that Dr. Basch would be quite willing to give the state the first and last word in economic decisions; but in deference to a vague concept of "liberty" he holds back with an unequivocal statement. There are other instances, however, where the author seems satisfied with such weak arguments against government planning as the "absence of a code of values" or the failure of certain governments in economic tasks, governments that were unprepared, unwilling, or unauthorized to do the job.

HORST MENDERSHAUSEN

Bennington College

Arms and the Aftermath. By PERRIN STRYKER (Boston: Houghton Mifflin. 1942. Pp. viii, 157. $1.75.)

The author, a former feature writer for *Fortune* magazine, attempts to cover, in breezy fashion, five topics: (1) industry's war record during 1917-1918, (2) technical information on mass production of war implements, (3) possible post-war results of plant expansions, (4) a report on the "various

1941 attitudes of manufacturers toward war business and their opinions about the future," and (5) suggestions as to "the intentions of the Government in a post-emergency world" (p. 20).

Stryker finds ample evidence in the experiences of World War I to demonstrate that construction, conversion, and operation of plants devoted to production of war goods divert resources from the civilian sector of the economy. In spite of this obvious lesson, he regards the present task of equipping for "defensive" war as a load to be superimposed upon industry's normal production schedules. There is, moreover, a tendency to identify industrial efficiency with the number of operations carried on under one roof. The difficulties involved in subcontracting are, accordingly, emphasized and the need for parceling out tasks belittled.

Regardless of the government's offer to buy specialized equipment required for war production, some business men, Stryker finds, spurn the risks of entering new and perhaps temporary lines of production. They do not want to manufacture war implements according to confusing specifications at a time when their usual wares can be sold through the regular channels of trade at prices bolstered by the rising volume of income paid out by adventurers who have taken war contracts. For these producers of war goods the author foretells a doleful future. To admonish his readers about the problems of post-war industrial adjustment, he summons the specter of stark, bleak and idle factories. Consequently, these "excess" plants will have to be sterilized in order to preserve the processes of "orderly" marketing. Business men, apparently, have not heard and do not act on Hansen's thesis[1] that the nation's entire productive resources and abilities can be employed to rebuild our capital equipment and to achieve a high level of real income for civilians.

The author's formulation of problems connected with the future relations of government and business appears garish to the extreme. He envisages a "post-emergency government" dominated by Isador Lubin and Leon Henderson, signers of the minority report submitted by the T.N.E.C. Another bogey on the horizon is government control in behalf of the consumer. "Federal concern for the consumer promises to be one of the major characteristics of the future New Deal. . . . For once the government takes the consumer under its wing; it will have to abandon its traditional role as the protector of the maker and seller" (p. 151). Stryker manifests little consciousness of responsibilities to rehabilitate a war-sick and poverty-ridden world. The only indication, indeed, comes by way of a suggestion that producers of peacetime goods at war's end are going to get an immense tactical advantage over their rivals in the scramble for markets. This time advantage, coupled with mercantilistic practices, may fix the industrial pattern and secure for decades the gains obtained through initial penetration of markets.

Considerable weight should be attached to this book as an expression of

[1] Alvin H. Hansen, *After the War—Full Employment* (Washington, 1942), No. 2 in the National Resources Planning Board series, *Post-War Planning*. Also A. H. Hansen and C. P. Kindleberger, "The Economic Tasks of the Post-War World," *Foreign Affairs*, vol. xx, Apr., 1942, p. 466.

the recent past thought of those who direct operations of an important sector of American industry. Stryker's report, together with the revelations of the Truman Committee, troubles those who are convinced that nothing less than a desperate production drive can supply in time the tools required for military victory. This is a book, then, to read for a point of view, and, like some other influential books extant today, not to be judged entirely by the consistency of its argument.

William Bray

Cornell University

Industrial Organization; Price and Production Policies; Business Methods

Hollywood: The Movie Colony, the Movie Makers. By Leo C. Rosten. (New York: Harcourt-Brace. 1941. Pp. x, 436. $4.00.)

Mr. Rosten, with the help of a large grant from the Carnegie Corporation and the Rockefeller Foundation and a staff of ten assistants, has given us a delightful and penetrating account of the social and professional life of the moving picture capital. During three years of investigation in Hollywood he gained a wide entrée. On the basis of this experience he gives a vivid picture of the work-patterns, customs, and attitudes of the more prominent groups in the industry. This volume describes the life of the movie colony and analyzes in detail the characteristics of the producers, directors, writers, and actors. A future volume is to include an economic analysis of the industry and a discussion of its labor relations. The present volume is a social anthropological study of Hollywood on the "Middletown" pattern, and I shall leave an evaluation of it as such to scientists in that field.

An interesting chapter on "Politics over Hollywood" includes a description of the depths to which the movie producers sank when they tarnished their silver screens with fabricated newsreels against Upton Sinclair during the California gubernatorial campaign in 1934. Had the chapter been written a few months later it would probably have contained an account of the ill-starred congressional investigation of alleged pro-war propaganda in movie plays and of the misuse of the newsreels to present far-fetched arguments against compulsory joint income-tax returns. If these cases had been included, the author might well have been led to conclude that the producers' abuse of their power to influence public opinions has been limited chiefly to issues directly affecting their personal financial interests.

Economic interest in the volume centers chiefly in the chapter on "The Big Money." Rosten gives the size and number of the big incomes. While disclaiming any intention of discussing the reasons for the high salaries, he appears to attribute them to the profitability of the industry and the box-office value of scarce talent. "Movie profits go to the elite—in Hollywood and New York—and not to the stockholders. . . . Management gets big money for itself and big money for the talent it employs" (p. 86). The economic justification for high salaries to able producers is supported by an analysis

of 39 pictures, indicating that "in well over half of the cases, the higher the salary of the producer, the higher the net profits to the studio from the pictures which that producer made" (p. 277). It is questionable whether this analysis is sufficiently conclusive to warrant publication. Another instance of extensive analysis of inadequate material is the dissection of the personal expenditures of sixteen individuals. On the whole, I think the author summarizes the spending habits best when he quotes Ken Murray: "Hollywood is the place where you spend more than you make, on things you don't need, to impress people you don't like" (p. 103).

The chief weakness of the book comes from a labored attempt to make it scientific, which, so far as an economist can judge, results rather in making it pseudo-scientific. Rosten has taken his measuring rod into every cranny of Hollywood, and cluttered some parts of his otherwise fascinating book with insignificant data. Appendix H gives, for example, a statistical analysis by sex, age and location of persons whose fan letters were received during one month by *one* actor and *one* actress. Postcards constituted just 66.8 per cent of this correspondence. What social scientist has been eagerly awaiting this source material? The general discussion of the content of the correspondence is much more illuminating.

Rosten deluged Hollywood with questionnaires. The answers enabled him to analyze statistically the producers, directors, writers, and actors with reference to their age, birthplace, education, experience, earnings, marital history, and professional attitudes. Those in each occupational group who replied to the questionnaire constitute the sample, which is checked for representativeness. But many persons included in the sample did not answer all the questions, and doubts arise that the returns for particular questions constitute representative samples. After reading Rosten's questionnaires one can only marvel that he received as many answers as he did.

The book is very well written, except for a few instances of carelessness. The number of movie theaters, for example, is variously given from different sources as 15,115 and 17,000. In giving data per person and per family, a ratio of 5 to the family is used in one case and 3.77 in another. And in the text it is stated that 47.4 per cent of 251 actors *finished* high school but did not attend college, whereas the data in the Appendix permit one to calculate that 26.89 per cent of the 47.4 per cent did not complete the four years.

This volume, in spite of occasional overdevelopment of quantitative measurement, does give a vivid and clever account of work and play in the movie capital. There are probably few other people that could have seen behind the façade of Hollywood as penetratingly as Rosten has done. It is to be hoped that he will complete his second volume, using the material he has gathered on the economics of the industry, as soon as he can be spared from his present position as Director of the Motion Picture Section of the Office of Facts and Figures. His characterization of the industry as geared to a mass market but unable to use the methods of mass production holds promise of some interesting analysis.

W. H. McPHERSON

Oberlin College

Marketing; Domestic Trade

Marketing. By FLOYD L. VAUGHAN. (New York: Farrar and Rinehart. 1942. Pp. xi, 639. $3.50.)

Yet another textbook in marketing! The need—if indeed there be a need—according to the author, Professor Vaughan of the University of Oklahoma, is for a treatment that emphasizes "principles rather than technique" and that proceeds primarily "from an economic rather than an acquistive point of view." Complaint about high marketing cost and consumer insistence upon more information about the quality of products bespeak the importance of the economic approach. This treatise aims to analyze from an economic point of view the reasons for the relatively high cost of marketing and to offer suggestions as to what may be done to increase market efficiency. The book meets this test to a reasonable degree. The author presents the usual features of marketing in an orthodox but adequate fashion and in the final chapters of the volume he gives sound explanations for higher cost of marketing than of manufacturing and advances recommendations for dealing with the situation in the light of accepted economic principles. Herein lies the chief merit of the book.

Like any freshly printed text in a field that is changing so rapidly as that of marketing, the book has the added merit of presenting the most recent advances in technique. Such developments as the super-market (pp. 225-227) and the agricultural legislation of 1936 and 1938, which seek to restrict the output of farm products in order to raise prices (p. 309), are well treated in the text. Another good feature is the questions and problems appended to each chapter for class discussion.

The book is divided into six parts. Part One gives the approach and discusses the psychology of human wants. The next six chapters (Part Two) describe the orthodox functions of marketing. Of the various approaches to the study of marketing the author pays his respects to the functional approach as "the most important" (p. 10). But subordinate to the functions at any given time, it is important to know "the psychological appeals, physical facilities, mediums, and practices in marketing." Accordingly, Part Three describes the mediums that perform these functions (private enterprises, coöperative associations, and the government); and Part Four treats of the practices which these mediums employ—salesmanship and advertising, credit, price policies, fair competition, merchandise turnover and stock control, and market research. The next five chapters (Part Five) present methods of marketing different classes of products and contrasts the methods of handling production goods (farm products, extracted products, and manufactured goods) and consumption goods (convenience goods and shopping lines). Part Six contains an appraisal of the marketing system primarily from the standpoint of cost, giving reasons for the increase in marketing cost and offering recommendations.

The final chapters of the book are by far the most significant. Herein the author sets forth three general explanations of the increase in the cost of

marketing. One is the fact that marketing is subject to the economic principle of decreasing cost to a much lesser extent than is manufacturing. A second reason is higher transportation costs for longer hauls between producer and consumer, added sales efforts, and other increases in marketing functions. A third explanation consists of monopoly, unfair competition, and additional margin-widening acquisitive practices. The recommendations follow in terms of these factors—flexible freight rates, decrease or improvement in the functions of marketing, less advertising—and these deserve a firm nod of approval.

J. S. ROBINSON

Carleton College

Transportation; Communication; Public Utilities

Essays in Transportation in Honour of W. T. Jackman. By H. A. INNIS, editor. (Toronto: Univ. of Toronto Press. 1941. Pp. viii, 165. $2.50.)

This small volume, which carries a foreword by the Reverend H. J. Cody, president of the University of Toronto, and an introduction by Professor Alexander Brady, is made up of lectures presented in honor of Professor Jackman upon his recent retirement after completing a quarter-century of service at Toronto. For the most part the contributors are his former students and present or former colleagues. An exception is Professor C. Lloyd Wilson of the Wharton School who, on behalf of fellow workers in transportation south of the border, pays warm tribute to Professor Jackman for his noteworthy contributions both to scholarship and to student training in the field. The essays or lectures differ considerably in extent and in the level of interest and professional insight they envisage. Some, and possibly all, are worth the attention of specialists in the particular fields.

Professor G. P. deT. Glazebrook of the department of history of the University of Toronto deals with "Nationalism and Internationalism on Canadian Waterways" and discusses the contributions and limitations of water transportation as a basis for political unity in Canada and the bearing of the Canadian waterways on the relations of Canada and the United States. "Is it too fanciful," he concludes, "to imagine that what an historian has aptly called 'the commercial empire of the St. Lawrence,' based on economic and national motives, may be transformed into a political empire of the St. Lawrence, child of its generation, jointly cherished by the Republic and the Dominion?" (P. 16.) Professor Herbert E. Dougall of Northwestern University, in "Some Comparisons in Canadian and American Railway Finance," finds that the railroad problems of the two countries, formerly quite different, now reach common ground in the obstacles to financial health that beset both systems. But the countries have differed in their response, in that American losses have fallen mainly on security owners while those in Canada

have largely been assumed by the state. After an extensive factual examination of the "Principal International and Interterritorial Class-rate Structures of North America," Mr. Frank L. Barton, chief of the economics section of the Tennessee Valley Authority, concludes that "the levels of class rates applying to Official Territory from Southern, Southwestern, and Western Trunk-Line Territories, and Eastern Canada are apparently made with no relation to density of traffic or costs of railroad operation within the territories from which the class rates apply" (p. 55). Professor Wilson, in his survey of "Some Basic Problems in the Public Regulation of Transportation," provides a concise summary of the perennial and the more recently emphasized problems and stresses their importance.

The factors making for high cost of movement of farm products in Canada are explored by Professor W. M. Drummond of the Ontario Agricultural College in an essay on "Transportation and Canadian Agriculture," and some suggestions are made for reducing the cost. In the lengthiest of the discussions Mr. Norman D. Wilson, an engineer, in treating "Some Problems of Urban Transportation," sets forth the difficulties of providing city transport facilities in the motor era and surveys the experience of a number of Canadian cities. The bearing upon policy of the presence of municipal ownership and the trend toward "free wheel transit," by busses and trolley-busses, are stressed.

Mr. W. G. Scott's essay, "An Aspect of the British Railways Act, 1921," follows a broader plan than the title may suggest. Discussing the disappointing operation of the standard-revenue provision of the 1921 law, the counterpart of the 1920 "rule of rate making" in this country, he paints such a picture of the use of transport control to throttle the railways' competitors as should horrify those American students who now voice alarm over the straightjacketing tendencies of American regulation. It would appear that consumer-protection has largely disappeared from the British system of control. Mr. Scott believes that the end of protecting railroad investors could better have been achieved through outright subsidy, but he does not declare himself as to the worthiness of the end itself.

The final essay, on "Recent Developments in Balance of International Payments Statistics," by Mr. Herbert Marshall of the Bureau of Statistics of the Dominion Government, departs from the transportation theme but deals with the not unrelated matter of the recent progress made in Canada in determining the volume of foreign trade movements and tourist expenditures. The revised estimate gives Canada a credit from tourists of 78 million dollars in 1939 instead of the 166 millions previously announced.

Four closely packed pages are required to list the publications of Professor Jackman. Best known among them are his two-volume treatise on *The Development of Transportation in Modern England* and his *Economics of Transportation* and *Economic Principles of Transportation*, which reflect his Canadian setting.

SHOREY PETERSON

University of Michigan

Air Transportation. By CLAUDE E. PUFFER. (Philadelphia: Blakiston. 1941. Pp. xxiv, 675. $3.75.)

Air Mail Payment and the Government. By FRANCIS A. SPENCER. (Washington: Brookings Instit. 1941. Pp. xii, 402. $3.00.)

Air Transportation in the United States: Its Growth as a Business. By HUGH KNOWLTON. (Chicago: Univ. of Chicago Press. 1941. Pp. vii, 72. $1.25.)

The first two of these books are works of substantial scholarship. The third is a sketchy little book by an investment banker who is a member of the board of directors of Eastern Air Lines. It contains some information of interest on factors influencing the growth of air transportation, but one is forced to wonder how it happened to be published "through aid of a special fund for geographic study and research."

The books by Puffer and Spencer respectively were both completed in the summer of 1941, and appeared almost simultaneously. They cover much of the same ground, but with completely different types of approach. Puffer discusses all phases of current federal law and administration relating to scheduled air transportation. Spencer limits his scope, not too rigorously, to the place of air mail payments in the development of air transportation.

Puffer's book seems destined to convey an unfavorable first reaction to many readers. It has a formidable 16-page table of contents and an introductory chapter which is exceedingly dull. As one ploughs through the book, however, the amount of sheer labor which went into it can hardly fail to inspire some respect.

The most valuabie part of the book is probably the lengthy chapter which presents the accumulated experience in the issuance of certificates of public convenience and necessity for new air carriers. Partly because of the subsidized character of the industry, the pressure for certificates has been great, and there have been complex special problems. At present, expansion of route mileage has been brought to a halt because of the war, but there is every reason to expect rapid expansion in the post-war period. The precedents so far established in connection with certificates for new services may then become of considerable importance.

Other major chapters deal with rate making for air mail service and for transportation of persons and property. The discussion of air mail rate making has both the advantages and disadvantages of an intensive analysis of the printed decisions. It collates the precedents, but does not penetrate very far behind the mask of officialdom. Other chapters deal with the economic and legal characteristics of the industry, the regulatory agency, and the regulatory activities concerned with accounting, corporate relationships, labor relations, and safety.

The treatment of decreasing costs is careful and elaborate, but there is almost no discussion of technological progress in the industry and its economic implications. This is a strange omission in a book on air transportation. At pages 302, 367, and 386, conclusions about rate-making policy, subsidy payments, and industry profitability in the future are postulated upon the ex-

pectation that costs will continue to decline merely because the industry is one of decreasing costs in the static sense.

As a critical study, the book is lacking in impact. Significant appraisals of current practice are included, but tend to become lost in a wilderness of detail. For most readers the book would have been greatly improved by a rigorous condensation. Certainly no undergraduate should be compelled to read it in its entirety as a textbook.

On the other hand, the mature student who has a specialized interest in almost any phase of the economics of air transportation will find the book very useful. Everything relating to current regulatory practice seems to be there, conscientiously compiled, well arranged, and carefully indexed.

Spencer's book, as previously noted, is concerned primarily with the issues connected with air mail payments. Since most of the public controversy so far in the air transportation field has been related to the mail payments, they provide a convenient organizing theme. The main structure of the book is chronological.

After an introductory chapter, Spencer covers the development up to 1934, reworking the ground covered by the present writer in *The Economics of Air Mail Transportation*, but with a fresh look at the source material. He then deals somewhat noncommittally with the cancellation of the air mail contracts and reports subsequent developments during the period of Army operation.

About half of the book, seven chapters, is devoted to the Air Mail act of 1934 and its administration by the Interstate Commerce Commission. "A review of those chapters," as Spencer says (p. 225), "indicates that the Air Mail act of 1934 contained statutory defects and that its administration by the ICC was not altogether satisfactory." This is an understatement. In particular, parts of chapter XII deserve a place in any collection of examples of administrative ineptitude in the field of public regulation.

The three chapters on the Civil Aeronautics Authority and Board afford an interesting sequel. The record indicates that, while before 1938 an old experienced agency was doing a new job badly with its left hand, after 1938 a new agency which was willing to give the most concentrated attention found itself trapped at first by its own inexperience.

Throughout the whole period since the cancellation episode in 1934, the type of regulatory action needed by the industry has been constantly changing. The administrative activities actually attempted, moreover, have been largely on a trial and error basis. In the background, not too well concealed, there have been the numerous feuds and animosities carried over from the cancellation fight.

Spencer's book has the great merit that it deals realistically with the problems which have actually been uppermost in the minds of the officials of the regulatory agency, air transport executives, and members of Congress. His is not a book written in a library about a distant governmental activity. Despite a considerable amount of tactful phrasing, he manages to convey

in pointed fashion the results of much penetrating observation.

The economic analysis is competent and sufficiently extended for the purposes in hand, but the book is as much a study in public administration as in economics. Because of its success in dealing with an area where economic and administrative issues can never be entirely disentangled, it is a significant contribution to a better understanding of how government functions in the field of economic regulation.

PAUL T. DAVID

Washington, D.C.

Economic Geography; Regional Planning; Urban Land; Housing

Economic Geography of the United States. By BERNHARD OSTROLENK. (Chicago: Richard D. Irwin. 1941. Pp. xvi, 804. $4.00.)

Professor Ostrolenk begins his book with an apology: "Economic geography, like history, needs to be constantly reinterpreted, reëvaluated and rewritten in the light of new technological developments." Indeed, there are many elementary textbooks in economic geography. One should think that there are innumerable tasks more worthy of the talent and effort of a professor of economics than adding another to the stock. Mr. Ostrolenk redeems himself by introducing new types of evidence and new viewpoints into the field of economic geography texts.

His plan is excellent. He starts from the proposition that the appraisal of resources, the significance of their geographic distribution, and their contribution to human welfare are constantly in flux, are currently affected by changes in technology, demand patterns, institutions and public policy. Hence, economic geography should be discussed in terms of just these changes, instead of merely describing how much of what is where.

Dealing with coal resources, for instance, he discusses the painful agonies of a competitive and poorly organized industry faced with a declining demand for its product and the emergence of a powerful labor union, and tells of the rescue attempts by the government. In connection with the iron and steel industry, he explains—too sketchily but with laudable intentions—the workings and effects of the basing point price system and price leadership. Agriculture is shown reeling from the blows of trade barriers and losses at export markets, and a brief survey of the major public policies designed to cushion the shock and to help farmers to adjust their production to the new demand situation is presented.

On the whole, the selection of factual materials in tables, charts and maps is made judiciously according to their relevance to these dynamic aspects. Hardly a figure or map is shown which does not have a significant place in the analysis or argument developed in the text. The unceasing attempt of the author to give meaning to facts and to select them from an amorphous pile, according to their relevance to major issues of economic and social

welfare, renders his book outstanding among its none too exciting companions.

The deliberate and systematic focus upon social welfare and living standards places the geographic location of resources in a position coördinate with the various technological, economic and institutional factors determining the conditions under which the resources are utilized by people. Abundance of natural resources in itself does not make people rich. The author stresses, by means of many concrete examples, the growth of public policies designed to facilitate people's efforts to adjust resource uses to changing production techniques and demand patterns in such a way that general welfare and living standards be increased. Similarly, he points to other public policies which are hampering such adjustments. The arguments regarding these problems are presented cogently and without dogmatism.

So much for the merits of the book. Its main deficiency lies in the lack of conciseness with which this constructive approach is carried through into the details of the various sections. Frequent references are made to the fact that whenever "pecuniary costs" and "true costs" fail to coincide, economic and social maladjustments are bound to arise. Yet no satisfactory definitions of these two concepts of cost are given. In the chapter on Conservation, for example, we find this statement: "To say that it does not pay to conserve soil, or to reforest waste land, or promote health, or educate and train young people is merely an evidence of improper application of the pecuniary system. Conservation of resources frequently demands that pecuniary accounting be ignored, that values be measured in other than pecuniary terms" (p. 775). In the first place, it is poor logic to throw soil conservation or reforestation in the same category with health and education; and, secondly, we are entitled to know what value measures beside pecuniary ones the author is contemplating.

Another example: in the chapter on transportation, 20 pages are devoted to a simple listing of various railroad lines, without any reference to traffic loads or other economic-geographic factors; while the economic-geographic railroad problem par excellence, the making of freight rate schedules and their effect upon regional specialization, receives 7½ lines merely stating that there is such a problem.

Finally, I deplore the author's aversion to introducing analytical concepts and simplified models of functional relationships between crucial factors as aids for understanding the processes governing the location of industries and regional specialization. An elementary knowledge of the principles of proportionality of factors, of comparative advantage, of maximizing social product values, etc., is indispensable to students in their endeavor to gain insight into the dynamic aspects of economic geography.

The book is divided into five parts: Geography, Power, Metals and Minerals, Agricultural Resources, and Movement and Conservation. A very informative chapter on "New Resources and New Industries" is contributed by Professor John F. Bell, and two chapters on "Tobacco and Sugar" by Professor J. J. Gottsegen. The discussion of each of the major resources begins with a brief comparison of America's productive capacity with that

of other countries, giving perspective to America's position relative to the world as a whole. Recent technological changes, changes in demand, and relevant public policies are traced for each major industry in their effects upon geographic location, intensity of resource utilization, and living conditions of the people employed in that industry. The structure of ownership and control and the industrial policies and practices regarding output, marketing and pricing are sketched for the various industries, with varying degrees of lucidity. The review questions at the end of each chapter are skillfully designed to stimulate thinking on the part of the student.

Among the texts in economic geography dealing primarily with the United States which have come to my attention Professor Ostrolenk's book is by far the most thought-provoking and deserves a prominent place in its field.

RAINER SCHICKELE

Iowa State College

Southern Industry and Regional Development. By HARRIET L. HERRING. (Chapel Hill: Univ. of North Carolina Press. 1940. Pp. xiv, 103. $1.00.)

To secure that needed balance between agriculture and manufacturing in southern states, certain general principles and factual data are needed. To use the words of the author of this timely and enlightening book on the industrial growth of the South: "This story proposes one such unifying principle which may be useful to planners: an application to the manufacturing industry of Professor Howard W. Odum's principle of optimum production. It supplies some simple—it is hoped not oversimplified—indices that may be useful to agencies trying to encourage manufacturing."

This book emphasizes first the fact that the South is a definite part of the nation and the welfare of the nation is affected by the welfare of this part; second, that the South, to be at its best, needs the development of all its people and capacities.

The material is divided into six chapters, dealing first with an optimum manufacturing economy for the Southeast. It then logically goes into a discussion of manufacturing for the nation, manufacturing for the region, manufacturing for regional balance, optimum production and opportunity, and finally, a statistical picture of the entire situation. A well-planned Index simplifies the finding of particular data. Numerous charts and graphs, found throughout the book, add to the effectiveness of the information presented.

In bringing to the front the problems that confront and impede the development of manufacturing in the South, and for presenting clearly the opportunities for future development, Miss Herring's book is a valuable document.

SYLVIA KANTOR

Athens, Georgia

Labor and Industrial Relations

The Kansas Industrial Court, an Experiment in Compulsory Arbitration. By DOMENICO GAGLIARDO. Univ. of Kansas pub., soc. sci. stud. (Lawrence: Univ. of Kansas Press. 1941. Pp. viii, 264.)

As the reader of Professor Gagliardo's excellent little book on the Kansas Industrial Court proceeds through its pages he is likely to be increasingly impressed by certain similarities between the history of the court and the Paul Bunyan yarn concerning logging operations on the Pyramid Forty. This tract was so high "it took a man a week to see the top, or seven men could do it in a day if they all looked together." Among the animals that lived there was the Pinnacle Grouse. It "had only one wing—and that was a big one. . . . With one wing big that way she could fly round and round in little circles or big circles, which ever she liked, but of course, anyone might know, she never could go straight ahead—not the way she was built."[1]

After noting that "strikes again present a serious problem and once more restrictive legislation is being called for," the author states that his study is designed "to point out the successes and failures of compulsory arbitration in Kansas, . . . to serve as a warning to those who place their hopes in panaceas; and to explore the limits within which compulsion in the settlement of labor disputes may properly be applied in a democracy" (p. v). In carrying out these purposes he made extensive use of legislative debates, court decisions, contemporary newspaper accounts, official correspondence, and unpublished manuscripts; moreover, he secured the personal help of individuals who had taken an active part in the controversies that raged around the court. As a result his readers will be able to "see the top" in much less than a week. The first chapter sketches the political and economic background, both national and local, of the law creating the court. Here as elsewhere Professor Gagliardo pulls no punches. He quotes President Wilson's castigation of mob violence as "that 'disgraceful evil' which added 'to German lies about the United States, what her most gifted liars' could not 'improve upon by way of calumny' " (p. 3); and states that the "national hysteria was reflected in Kansas" (p. 13). With reference to a passage in ch. 74 of the Laws of 1920 of Kansas he declares that, "The severity of this indictment and its palpable falsity are eloquent evidence that, in judging our foreign born and native born of foreign parentage, reason had completely abdicated and rank prejudice reigned supreme" (p. 15).

The fact that the court was built so that it would "fly round and round in little circles or big circles" is revealed in the circumstances, among others, that "No special qualifications were required for those serving as judges" (pp. 42, 201); and that its presiding judge could claim that "We had no precedent to guide us." As the author points out there were precedents from the Australian Commonwealth Arbitration Court, "and the fact that they were not used or even referred to indicates how narrow was the basis of knowledge and experience upon which the court was built and conducted" (p. 235). The

[1] *Cf.* Esther Shephard, ***Paul Bunyan***, pp. 23-32.

evidence that the Kansas body did fly around in circles is scattered through this book; one of the best of Professor Gagliardo's comments on its procedure appears on pages 78-79.

In at least one respect, however, it must be admitted that the author's testimony indicates that the Kansas grouse flew straight. Concerning the packing house workers' walk-out of 1921-22, he writes that the court "merely exerted all of its influence to break the strike, offering as an excuse a new interpretation of its jurisdiction. Its effectiveness was in the field of strike-breaking and not in that of adjudication" (pp. 159-60).

In the final chapter he both generalizes and qualifies this criticism: "It is fair to say that the Industrial Court Law was regarded by its makers as a strike-breaking device of the first order, although it must be added that they also believed it made strikes unnecessary and therefore unjustifiable" (p. 233). Connected with these observations is the author's conclusion that, though unions were specifically recognized in the law and collective bargaining authorized, "the fundamental purpose of the act was to reduce unions to a state of impotency . . ." (p. 239). Numerous passages show, however, that he recognizes the relation between this attitude and the type of union leadership represented by Alexander Howat of the coal miners.

Like much legislation of recent years, the Kansas Industrial Court act provided that if any section or provision of it should be declared unconstitutional, the remainder was not to be affected. As is generally known, the U. S. Supreme Court in early 1923 held it contrary to the Constitution for the state to regulate wages in the meat-packing industry, "at least under any but the most extraordinary circumstances," and subsequently "denied the state's right to regulate hours and overtime rates by a system of compulsory arbitration" (p. 245). These decisions, the changes in the relation of the court to the Public Utilities Commission, the abolition of the court, and other events described in detail by Professor Gagliardo finally reduced the original statute to a condition approximating that of another of Paul Bunyan's animals, the Ring-tailed Bavalorous, which after tangling with the Blue Ox, had little left but the ringed tail. In spite of this it remains true that "much more" of the law "has been left intact than is generally supposed" (p. 247).

The author's treatment of his third objective—an exploration of the "limits within which compulsion in the settlement of labor disputes may properly be applied in a democracy"—deserves more space than can be found in a review of reasonable length. Because of the affinity of some of his distinctions and arguments to those presented by the Webbs nearly fifty years ago in *Industrial Democracy,* it is surprising to find no mention of that classic work.

CHARLES A. GULICK, JR.

University of California

Ideologies and American Labor. By PAUL K. CROSSER. (New York: Oxford Univ. Press. 1941. Pp. xvi, 221. $2.50.)

There are two ways of developing labor theory. The one starts with an all-embracing glance at Western history, discovers that it is like a body of water

in a lock canal, proceeds to formulate the qualitative uniqueness of each section of the "canal," especially its "ideology," and then appraises the concrete labor action of our own time by the closeness with which it is guided by the ideology appropriate for the time. This is the way of the author of this book.

The other way is to study labor action from the standpoint of the labor organizations endeavoring to establish themselves in their social environment and, at the same time, to mold that environment by building new institutions, such as industrial government, in accord with labor's "home-grown" ideology. Such an unselfconscious ideology is quite different from an ideology in the grand manner as viewed from a lofty height, but it has the merit of springing from the soil and of being understood by Tom, Dick, and Harry.

The author is a Marxist, but in his thinking and manner of exposition his basic Marxism has passed through the bluing process of the latter-day German sociology. Hence, on the one hand, the airtight compartmentalizing of Western history into the town artisan period, the capitalist period, and the proletarian period; and, on the other hand, his formulation of three corresponding "ideologies": the "harmony in the estate," the "balance in marketing," and the "struggle among classes." These ideologies formulated with a truly astounding erudition in Part I are correlated in Part II with three types of American labor relations: paternalistic unionism, liberalistic unionism, and revolutionary unionism. Under the first, he groups the movements prior to the American Federation of Labor as well as the welfare-ism of Henry Ford; under the second, nearly all the subsequent unionism; under the third, the class struggle unionism from DeLeon to Foster. He has to admit serious ideological hangovers, for how else can one account for the ideological oneness of the CIO and the AFL, both of which remain stuck in the liberalistic bargaining phase? But he is supremely confident that, in the future, American labor's ideology will distinctly show that it belongs to the part of the canal past the capitalistic lock.

The reviewer has nothing but admiration for the author's wide reading and dialectical skill. However, he prefers the other interpretation of American unionism which sees it develop first the "pure and simple" type when the sovereignty of American government was confronted with the stronger sovereignty of American business and now, under our very eyes, reinterpreting its basic "job conscious" ideology by raising its sights to take in the political hinterland of the job. This it does because, in our own day, government has moved into the centre of the arena not only as the regulator, but also as the creator of job opportunities. In this fashion, American labor is moving along both materially and ideologically, but with the enormous advantage that it is avoiding the danger of a flank left hanging in the air, resulting from an ideological breach with the bulk of the middle classes still devoted to the liberalistic "balance in marketing," albeit with such amendments as the A.A.A. and the like.

Selig Perlman

University of Wisconsin

Stars and Strikes: Unionization of Hollywood. By MURRAY ROSS. (New York: Columbia Univ. Press. 1941. Pp. x, 233. $2.75.)

The movie industry is no less glamorous than its stars. Since it is widely publicized and since its product is highly personalized, popular interest centers in it more than in any other industry. The special characteristics of the industry are reflected in its collective bargaining techniques. The variety of its employees results in an unusual diversity of labor relations problems. For all these reasons it is fortunate that this history of the organization of the employees engaged in producing motion pictures has been added to the growing list of special industry studies in the labor field.

Here is a centralized, large-scale industry making an unstandardized product. The production of each movie is largely a separate enterprise, with many employees necessarily hired on an individual contract basis. Employment for a majority of the workers is peculiarly irregular. Salary rates defy standardization, and bear little relationship to annual earnings. Employee demands have included such unusual points as a minimum duration for layoffs and the allocation of screen credits to writers. The industry has become thoroughly organized although no major strike has ever been won by the instigating union.

Dr. Ross's main title, of course, gives little indication of the scope of his book. The volume deals not only with stars but also with other screen actors, extras, writers, and craftsmen and, in passing, with directors, musicians, technicians, and office workers. It has much less to say about strikes than about the ebb and flow and interrelationships of numerous labor organizations; for there have been very few strikes in the movies as compared with other recently organized industries.

One of the peculiarities of the industry is the unusual degree of uniformity in management labor policy. The first major attempt at unionization in 1916 led the companies to form the Motion Picture Producers' Association, which, with its successors, has been the medium for achieving this unification.

Dr. Ross places merited emphasis on the bargaining machinery established in 1926 by the Studio Basic Agreement, covering the stagehands, carpenters, electricians, painters, and musicians. This agreement places all negotiation in the hands of a joint committee, whose employee representatives are the presidents of the five national and international unions. The author explains why this restriction upon the functions of the local unions and their officials has checked strikes, but a more extensive analysis of its relation to the development of dictatorship in some of the unions would have been appropriate. Special attention is devoted to the "Alliance" as the dominant union in the group. The Alliance, representing the stagehands and several smaller technical groups in the studios and the projection machine operators in the theaters, was greatly weakened in 1933 by the loss of its strike to obtain recognition for the sound men; but when its new president, George E. Browne, in 1935 demonstrated his ability to shut down movie theaters, the producers were induced to grant his closed-shop demands. "By this single stroke, Browne compelled some twelve thousand reluctant workers to join his union at a time when he had no more than a hundred members on all the studio lots" (p. 192).

It was then that the Alliance locals were subjected to the dictatorial control of Browne and his notorious William Bioff.

Special attention is inevitably given to the Academy of Motion Picture Arts and Sciences, whose creation in 1927 retarded the unionization of Hollywood's talent groups. Through 1935 the Academy consistently obtained more concessions for the actors and writers than they were able to gain through other channels. Control of the Academy and its five branches (for producers, directors, writers, actors, and technicians) was vested in a select few. "There was little exaggeration in Equity's claim that the producers controlled the destiny of the Academy. . . . The founding of the Academy was a master stroke of producer ingenuity; its successful operation resulted from actor acquiescence in its policies" (pp. 41, 42). But after 1933 many of its members became increasingly distrustful, and formed their separate guilds.

The detailed account of the lengthy negotiations during the N.R.A. period and the description of the rise of the Screen Actors' Guild and the Screen Writers' Guild to the status of contracting agents complete the main themes of the story. Considerable space is fortunately given to an analysis of the position of the extras (whose average annual earnings in 1940 were $361.03) and an explanation of the steps that have been taken to improve their lot.

There are some indications that Dr. Ross judges the success of labor relations largely on the basis of the absence of strikes. He uses this standard in commending the undemocratic negotiation machinery established by the Studio Basic Agreement (p. 15). He praises the Academy for its considerable peaceful accomplishments. "The Academy was for years an outstanding example of a successful industry-wide employee representation plan," and its formation was "one of the most original contributions to industrial relations in America" (pp. 214-15). And again, he appears to criticize the Wagner act when he says that it "was meant to reduce industrial strife by guaranteeing collective bargaining. Under its aegis the studios have known scarcely a single quiet day" (p. 191).

Dr. Ross has filled his book with interesting material that is not elsewhere readily available. He has made an extensive study of the documents and records on his subject. His use of field work and personal interview appears, however, to have been much more restricted. The attitudes and emotions of the employees are to some extent illuminated by the discussions of their various grievances; but there is no "close-up" of the producers, and we are given but a slight basis for judging their actions, policies, and motives. In fact the book as a whole gives the general impression that the chief struggle involved in the unionization of the industry was between rival unions rather than between the unions and management.

Since the book covers a variety of separately organized employee groups, the question of arrangement of material is extremely difficult; but this problem could have been met more successfully. If a more continuous treatment had been given to the experience of the craftsmen, the extras, and the actors and writers, the reader would have much less of a task in piecing together the many broken threads of the narrative.

I wish that Dr. Ross's volume might have been somewhat more extensive.

Further detail and explanation would be welcome at many points. More thorough evaluation should be possible without marring the objectivity of the treatment. The author himself raises several questions that he realizes are only partially answered. An introductory chapter on the peculiarities of the industry that influence its labor relations would help to orient the reader, though these characteristics gradually come to light as the account progresses.

In view of the movie industry's popular appeal and the great range of its labor problems, this volume is assured a wide reading by those interested in industrial relations. Illustrations drawn from its pages can probably be guaranteed to keep any labor class at attention.

W. H. McPherson

Oberlin College

Wartime Developments in Government-Employer-Worker Collaboration. (Montreal: Internat. Labour Office. 1941. Pp. 163. $1.00.)

This publication is a supplement to *Methods of Collaboration between the Public Authorities, Workers' Organizations and Employers' Organizations* which was prepared and published as a report to the International Labour Conference originally scheduled to be held in June, 1940, at Geneva. Though the book is a supplement, it contains an independent report on the development of collaboration between government, employers' and workers' organizations during the period of the present war. It covers intensively the developments in Great Britain and the United States, and, more briefly, those in Australia, Canada, India, New Zealand and the Union of South Africa. A chapter on Continental Europe describes how the German system of forced labor organizations has been expanded into the conquered and occupied countries, with Sweden and Switzerland as exceptions.

Among the democratic nations England obviously has gone farthest in the voluntary collaboration between trade unions, employer organizations and the government. Tripartite advisory and administrative boards have been formed centrally, by districts, and locally; and their activities have been extended from wage negotiation and arbitration, and prevention of strikes to price, supply, man power and efficiency problems. Collaboration also is extended to questions of draft and deferment, of industrial training and dilution of industrial skills and to seamen's and factory workers' welfare. Some industries have set up special production and employment boards. Finally the trade unions are coöperating in the discussion of post-war reconstruction. Development in the other Empire countries have followed the English example to a large extent.

For the United States of America, it is stressed that the war effort is directed not so much by the existing government departments as by specially created war boards, and that the collaboration has chiefly been carried on by appointing outstanding employer and trade union men to government boards. They join the boards as leading individuals, not as representatives of their respective organizations. The review of developments in the United States,

therefore, is chiefly a description of the forming, reforming, and duties of the different government war boards. The actual collaboration of the employers and the trade unions has been somewhat overlooked.

For the German-held countries, the existence of collaboration is denied, as collaboration is defined as voluntary coöperation, presupposing free and independent organizations of labor and management. This does not dispute the fact that the German government uses the "Labor Front" extensively to whip labor into line.

The advantage of the publication is that it renders a broad international review of developments in the relations between government, labor, and management, and of the new war agencies. Lacking is a critical evaluation of these developments. Collaboration, for instance, means not only increasing influence of the unions in government but also the opposite. There is the further question of efficiency. How do the many boards affect the speed of industrial conversion and efficiency in the new war industries? Is union influence in management really compatible with speed-ups which, after all, might be necessary? Nevertheless, the book reports on deep reaching transformations, especially in the British labor-government-management set-up, for which it deserves our full attention.

ALFRED KÄHLER

New York

Social Insurance; Relief; Pensions; Public Welfare

Swedish Unemployment Policy—1914 to 1940. By HARRISON CLARK. Introduction by SUMNER H. SLICHTER. (Washington: Am. Council on Public Affairs. 1941. Pp. 179. Cloth, $3.25; paper, $2.75.)

This book contains a very good summary of Swedish policies for relieving and reducing unemployment during World War I, during the post-war depression following 1920, and during the period of moderate depression and remarkable recovery from 1930 through 1940. The unemployment programs of both the Conservative and Social Democratic governments in the 1920's and 1930's are explained with abundant statistical material and references. The disadvantages of work relief, the advantages of an expansionist program to combat depressions, and Sweden's wartime labor policy are well explained.

General summaries are, of course, open to specific criticisms. Perhaps the author should have been somewhat more critical of the conclusions of others. This seems to be true in the case of the alleged causes of an increase of "permanent unemployment" in Sweden in the 1920's (pp. 60-62), which neglects both monetary and Keynesian analysis, and it seems to be true also of statements regarding the "international margin" (pp. 132-34, 152) to the effect that an easy-money program in 1932 and 1933 was not possible until the central bank had acquired a sufficient reserve of foreign exchange. In fact, an easy-money program with a decline in the exchange value of the krona

would have helped, and did help to a degree, to build up Sweden's foreign exchange reserve by checking imports, by stimulating exports, and by encouraging home rather than foreign investment. The statement (p. 131) that domestic monetary control following the abandonment of gold in 1931 "failed to stimulate industrial production" also could be challenged.

Although in an introduction Professor Sumner Slichter emphasizes cost-price relationships and wage cuts in building, the Social Democratic government actually followed a Keynesian policy—indeed, the reports of the Unemployment Commission in 1934 and 1935 foreshadowed much of Keynes's *General Theory*—and, as Dr. Clark points out, it was the absence of general wage cuts along with government subsidies, government diversion of income from savers to consumers, government aid in reducing interest rates, and migration to the cities that helped to stimulate investment, housing, and employment (pp. 157-59).

Wartime controls to permit rationing of labor and economic planning in the labor market have been much more complete in Sweden than in this country. As early as 1940 Swedish employers were required by law to hire through public labor exchanges; public funds were appropriated for transporting workers and their families to important work; legislation regarding night work for women, maximum hours, and vacations had in some instances been suspended; and arrangements for labor priorities had been made. Such policies are necessary in order to assure the most effective utilization of existing man power in the national interest.

RICHARD A. LESTER

Washington, D.C.

TITLES OF NEW BOOKS

Economic Theory; General Works

Atteberry, G. C., Auble, J. L. and Hunt, E. F. *Introduction to social science, a survey of social problems.* Vol. II. Foreword by Louis Wirth. (New York: Macmillan. 1942. Pp. xix, 800. $4.)

Bohlman, H. W. and Bohlman, M. E. McC. *Our economic problems.* Heath's correlated soc. stud. (Boston: Heath. 1942. Pp. 608. $2.)

A high school textbook.

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Knight, B. W. *Economic principles in practice.* Rev. ed. (New York: Farrar and Rinehart. 1942. Pp. xiv, 659.)

Kuznets, S. S., and others. *National income and its composition, 1919-1938.* 2 vols. Pub. no. 40. (New York: Nat. Bur. of Econ. Research. 1941. Pp. 959. $5.)

MacIver, R. M. *Social causation.* Soc. sci. ser. (Boston: Ginn. 1942. Pp. x, 414. $3.50.)

Marget, A. W. *The theory of prices; a re-examination of the central problems of monetary theory.* Vol. 2. Prentice-Hall econ. ser. (New York: Prentice-Hall. 1942. Pp. xxv, 802. $6.)

Pegg, C. H., and others. *American society and the changing world.* (New York: Crofts. Pp. 614. $3.50.)

This college textbook in social science attempts to view American society and its problems as a part of a dynamic interdependent world now in the throes of swift transition.

Winsor, E. and Evans, R. W., compilers. *Land, labor, and wealth; a handbook of economic terms.* (Caldwell, Idaho: Caxton Printers. Pp. 117. $2.)

The meaning of some fundamental economic terms explained through quotations from economic works and articles.

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Economic History

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A new introduction by the author appears in this new edition. The book has been out of print for some time.

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Bogart, E. L. *Economic history of Europe, 1760-1939.* Longmans econ. ser. (New York: Longmans Green. 1942. Pp. xiii, 734. $4.50.)

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CHASE, S. *The road we are traveling 1914-1942.* (New York: Twentieth Century Fund. 1942. Pp. 106. $1.)

DAY, C. *Economic development in Europe; a revision and extension of economic development in modern Europe.* (New York: Macmillan. 1942. Pp. 768. $4.)

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GATES, C. M., editor. *Readings in Pacific Northwest history; Washington, 1790-1895.* (Seattle: Univ. Bookstore, 4326 University Way. 1941. Pp. 345. $2.50.)

GRAY, L. C. and THOMPSON, E. X. *History of agriculture in the southern United States to 1860.* 2 vols. Carnegie Inst. pub., no. 430, reprint ed. (New York: Peter Smith. 1942. Pp. 1086. $7.50, each vol.)

JOHNSON, V. LER. *The administration of the American Commissariat during the Revolutionary War.* (Allentown, Pa.: Author, c/o Muhlenberg College. 1941. Pp. 238. $3.)

KLINGBERG, F. J. *An appraisal of the Negro in colonial South Carolina; a study in Americanization.* (Washington: Associated Publishers. 1941. Pp. 192. $2.)

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A translation of a stirring call to freedom which was written in 1548. It shows how dictators get power and maintain it, and how real power always lies in the hands of the people.

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MCGRANE, R. C. *The economic development of the American nation.* (Boston: Ginn. 1942. Pp. 712. $3.75.)

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PURYEAR, V. J. *France and the Levant, from the Bourbon restoration to the peace of Kutiah.* Univ. of California pub. in hist., vol. 27. (Berkeley: Univ. of California Press. 1941. Pp. 268. $2.50.)

SCHMITT, B. E., editor. *Some historians of modern Europe.* (Chicago: Univ. of Chicago Press. 1942. Pp. 542. $5.)

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A history of the famous newspaper.

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STEPHENSON, C. *Mediaeval feudalism.* (Ithaca: Cornell Univ. Press. Pp. 125. $1.25.)

THOMPSON, C. M. *Independent Vermont.* (Boston: Houghton Mifflin. Pp. 589. $4.50.)

An account of the turbulent history of Vermont up to the year 1791, when it was received into the Union.

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BEHRENDT, R. F. *Economic nationalism in Latin America.* Inter-Americana short papers, 1. (Albuquerque: School of Inter-American Affairs, Univ. of New Mexico. 1941. Pp. 22. 20c.)

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BUTLER, R. D'O. *The roots of national socialism.* (New York: Dutton. Pp. 304. $3.)

A critical survey of German thought and the German outlook on society from 1783 to the advent of national socialism in 1933, showing how the present nazi philosophy is due to the rise of Prussia as the controlling force in German life.

CHIPMAN, S. *Democracy in action; a study in social science.* Edited by CLAUDE T. RICHARDS; Preface by HOWARD E. WILSON. (Boston: Moore Pub. Co. 1942. Pp. 126. $1.00; paper, 50c.)

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"This volume describes the work of 35 government agencies, 33 private agencies, 11 industrial and financial organizations, 16 trade associations and 7 rail, highway, water and other transportation agencies now actively engaged in post-war planning research."

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Based upon the contention that America must take an active part in the ordering of world affairs after the war. In this program, coöperation with Great Britain will be a predominant factor.

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Municipal accounting terminology for state, municipal and other local governments. 3rd ed. (Chicago: Nat. Committee on Municipal Accounting. 1941. Pp. 34. 25c.)

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NOTES

EDITORIAL NOTES—Under present circumstances it is difficult to secure review copies, or even to know of the existence, of books published in foreign countries which may be of interest to readers of the *Review*. Several persons have assisted by voluntarily calling attention to foreign books, and in a few instances by submitting unsolicited reviews. Assistance of this sort is much appreciated, and I hope that others will serve the readers of the *Review* in the same way.

The preparation of the list of articles from current periodicals which appears in each number of the *Review* presents an almost insoluble problem of selection. The listing has been curtailed by the omission of many short articles from dubitably scientific periodicals, and has been extended to include more articles from the law quarterlies. The most difficult area of choice is that of the numerous periodicals dealing with specialized fields which are of interest to various groups of economists, such as accounting, taxation, marketing, insurance, agricultural economics, transportation, and industrial management. It is impossible to be exhaustive, so it is necessary to suppose that people with highly specialized interests follow the periodical literature in their own fields and are not dependent on the *Review* as a primary bibliographical source. I hope, however, that persons who find the present listing inadequate for their needs will send in their suggestions for broader coverage.

The *Review* is also receiving a large number of economic and statistical periodicals from Latin America, from which only a very select list of titles is published. A complete list of these periodicals will be published in September, as a guide to economists interested in the economic affairs of Latin America.

Attention is again called to the need of the *Review of Economic Studies* for new American subscribers to take the place of continental European subscribers. In spite of the influential part it has played in the development of economic analysis in recent years, for some reason it has had a very small number of paid-up American subscribers. Checks for the subscription price of $2.00 should be sent to Paul M. Sweezy, 10 Forest Street, Cambridge, Mass.

An inquiry has recently been sent to all institutions known to grant doctor's degrees in economics, requesting data concerning candidates for the thesis list to be published in September. If any institution having doctoral candidates has not received this inquiry, it would be appreciated if it will write this office at once.

All over the United States, and especially in Washington, small groups of economists are engaged in intensive study and discussion of problems of economic analysis and public policy. But for some reason the results of this forward-looking thought do not readily reach the economic journals. "The Inflationary Gap," for example, on which a two-man symposium is published in this number, has been actively under discussion for over a year. Problems of general rationing, on which it is hoped to publish a symposium in September, have similarly escaped the printed page. It will be a substantial aid in getting such subjects promptly into print for the general benefit of economists if persons immediately concerned will call them to my attention and suggest a panel of competent persons to discuss them.—P.T.H.

The following names have recently been added to the membership of the AMERICAN ECONOMIC ASSOCIATION:

Ambelang, P. L., 2208 Q St., N.W., Washington, D.C.
Ambs, K. F., La Sierra College, Arlington, Calif.
Barr, P., 501 Fifth Ave., New York City.
Barr, R. J., 2845 N. Summit Ave., Milwaukee, Wis.
Beltran, c/o Commercial Counsellor, Peruvian Embassy, 1010 Vermont Ave., N.W., Washington, D.C.
Berkowitz, L. M., 101 Ave. B., New York City.
Bingham, R. H., Dept. of Economics, University of Michigan, Ann Arbor, Mich.

Bloom, G. F., 1131 Allison St., N.W., Washington, D.C.
Bowlus, R. E., University Station, Baton Rouge, La.
Campbell, K. H., National Association of Credit Men, 1 Park Ave., New York City.
Castro-Barberena, M. De, 208 E. 32nd St., New York City.
Chadwick, L. E., Department of Economics, University of Nevada, Reno, Nev.
Clark, W. C., 401 Salt Spring St., Fayetteville, N.Y.
Clyman, B., 5004 N. Fifth St., Philadelphia, Pa.
Cohenour, V., 214 Union St., Joliet, Ill.
Conway, T. F., 63 Broad St., Plattsburgh, N.Y.
Cooper, C. L., 397 State St., Albany, N.Y.
Cowan, M. H., 1259 E. 26th St., Brooklyn, N.Y.
Dahl, R. E., Fenn College, Cleveland, Ohio.
Davey, H. W., Illinois Institute of Technology, 330 Federal St., Chicago, Ill.
Derber, M., 4823 42nd St., Long Island City, N.Y.
Diamond, H. M., Lehigh University, Bethlehem, Pa.
Dulan, H. A., Box 210 Faculty Exchange, College Station, Texas.
Dunn, C. L., 209 Harper Hall, Claremont, Calif.
Ekeblad, F. A., 1838 Chicago Ave., Evanston, Ill.
Eldridge, L. E., 3614 Warren St., N.W., Washington, D.C.
Evans, R. F., 4430 Tibbett Ave., New York, N.Y.
Exeter, J. E., 5 Centre St., Cambridge, Mass.
Felde, L. S., 49 W. 84th St., New York City.
Gardner, E. J., 505 First National Bank Bldg., Hamilton, Ohio.
Gardner, J. F., 361 Olancha Ave., Pittsburgh, Pa.
Gartley, R., 100 W. Monroe St., Chicago, Ill.
Gedanken, I., 5207 20th Ave., Brooklyn, N.Y.
Gernand, A. C., 2000 Connecticut Ave., Washington, D.C.
Griggs, F. D., 366 Sumner Ave., Springfield, Mass.
Gross, B. M., Office of Price Administration, Research Division, Washington, D.C.
Guttenplan, J., 42-66 Phlox Pl., Flushing, N.Y.
Haraldsen, W. C., 1629 Sixth St., S.E., Minneapolis, Minn.
Harrison, G. M., 701 Brotherhood Bldg., Cincinnati, Ohio.
Hatton, W. J., Office of District Attorney, Las Vegas, Nev.
Hayden, B. R., Apt. 353, Arlington Village, Arlington, Va.
Heaney, N. S., 3706 Calloway Ave., Baltimore, Md.
Hedges, M. H., International Brotherhood of Electrical Workers, 1200 15th St., N.W., Washington, D.C.
Hitch, T. K., Apt. 105, 2311 N. 9th St., Arlington, Va.
Hoadley, W. E., Jr., Bur. of Business and Economic Research, South Hall, University of California, Berkeley, Calif.
Hofstad, A. E., 1830 Sherman Ave., Evanston, Ill.
Holben, R. E., 233 B St., N.E., Washington, D.C.
Horowitz, D. L., 51 Frost St., Cambridge, Mass.
Houston, S. F., 512 Real Estate Trust Bldg., Philadelphia, Pa.
Jones, A. W., 2059 38th St., S.E., Washington, D.C.
Jones, H., 3900 Huntington St., N.W., Washington, D.C.
Kamber, F. J., 254 S. 38th St., Philadelphia, Pa.
Kamins, R. M., 5514 S. Blackstone Ave., Chicago, Ill.
Kay, A., Classification Dept., Bldg. 389, Camp Croft, S.C.
Kelly, J. J., 99 N. Grove St., Valley Stream, L.I., N.Y.
Kieffer, D. C., American Potash Institute, 1155 16th St., S.W., Washington, D.C.
Kohnen, G. B., 1615 Cleveland Ave., Chicago, Ill.
Lebergott, S., Box 201, Greenbelt, Md.
Leslie, V. A., American Petroleum Industries Com., 50 W. 50th St., New York City.
Limber, R. C., Bayville Road, Locust Valley, N.Y.
Lipsky, D., Dept. of Economics, Brooklyn College, Bedford and Ave. H., Brooklyn, N.Y.
Liwschitz-Garik, V., 730 Rugby Road, Brooklyn, N.Y.
May, H. K., Dept. of Economics, University of Michigan, Ann Arbor, Mich.

McAllister, P. S., 139 E. Foothill Boulevard, Altadena, Calif.
Mennis, E. D., 1420 Grand Concourse, Bronx, New York City.
Merkt, O. E. D., Hillcrest Rd., Port Washington, N.Y.
Merriam, M. L., 601 19th St., N.W., Washington, D.C.
Moffat, R. E., 119 South Hall, University of California, Berkeley, Calif.
Molyneaux, P., P.O. Box 2089, Dallas, Tex.
Mullenbach, P., 2601 16th St., South, Arlington, Va.
Musbach, W. F., Div. of Land Economics, B.A.E., Room 24, Old Post Office Bldg., Washington, D.C.
Newman, P. C., 723 Kearney St., N.E., Washington, D.C.
Noonan, A. W., 1313 E. 60th St., Chicago, Ill.
O'Beirne, B. E., Heidelberg College, Tiffin, Ohio.
Parker, C., Judson College, Marion, Ala.
Parrish, L. L., School of Commerce, Northwestern University, Evanston, Ill.
Percus, P. M., 565 Fifth Ave., New York City.
Politte, R. H., 470 N St., S.W., Washington, D.C.
Pond, A., 91 Center St., Richford, Vt.
Poulton, E. E., 744 Ingraham St., N.W., Washington, D.C.
Purdy, D. A., 916 F St., Sparks, Nev.
Reber, H. J., 1 Wall St., New York City.
Reece, B. C., 1129 House Office Bldg., Washington, D.C.
Roberts, E. O., Dept. of Economics and Business Administration, West Virginia University, Morgantown, W.Va.
Rockwell, L., 213 Fifth St., St. Charles, Ill.
Rogin, L., Department of Economics, University of California, Berkeley, Calif.
Rohrlich, G. F., The Brookings Institution, 722 Jackson Pl., N.W., Washington, D.C.
Rosenbaum, C. H., 1666 Bayard Park Drive, Evansville, Ind.
Rotwein, E., The Brookings Institution, 722 Jackson Pl., N.W., Washington, D.C.
Saurino, B., Sun Oil Co., 1608 Walnut St., Philadelphia, Pa.
Schattschneider, S., Prudential Insurance Co., Newark, N.J.
Schmidt, R. R. H., 1628 N. Franklin Pl., Milwaukee, Wis.
Scott, K. M., 603 Park, Fayetteville, Ark.
Shattuck, L. A., Jr., 4614 Fifth Ave., Pittsburgh, Pa.
Shaw, E. S., Department of Economics, Stanford University, Calif.
Sheftel, H. B., 220 Allison St., N.W., Washington, D.C.
Sherrard, A., 2000 F St., N.W., Washington, D.C.
Shields, P. O., 1308 W. Jefferson, Kokomo, Ind.
Shirley, R. V., J-1, Prince Georges Apt., Hyattsville, Md.
Smith, J. M., 1103 Flower Ave., Takoma Park, Md.
Soule, G., 3 E. 69th St., New York City.
Stempf, V. H., 38 Vine Road, Larchmont, N.Y.
Stephenson, C. A., American Transit Association, 292 Madison Ave., New York City.
Stern, M., 85 Barrow St., New York City.
Stettner, W. F., 51 Wendall St., Cambridge, Mass.
Stevens, W. H. S., 1940 Biltmore St., Washington, D.C.
Steyne, A. N., American Embassy, London, England.
Studley, J., Consumers' League of Connecticut, 36 Pearl St., Hartford, Conn.
Taeuber, C., American Sociological Society, U. S. Dept. of Agriculture, Washington, D.C.
Tesoro, G. A., Lawrence College, Appleton, Wis.
Thompson, D. S., Federal Deposit Insurance Corp., Washington, D.C.
Townley, W. W., 200 Walnut, Kansas City, Mo.
Triffin, R., 95 Prescott St., Cambridge, Mass.
Trop-Krynski, S., 1400 Jesup Ave., New York City.
Van Benschoten, W. H., National Life Insurance Co., Montpelier, Vt.
Veatch, R., 107 Prince St., Alexandria, Va.
Voorhis, J., 501 Old House Office Bldg., Washington, D.C.
Wachtel, S. B., Dept. of Economics, New York University, Washington Sq., New York City.

Walling, H. C., 2211 N. Quantico St., Arlington, Va.
Walsh, F. E., 2869 California St., Omaha, Neb.
Walsh, J. J., 1341 Quincy St., N.W., Washington, D.C.
Walsh, J. R., 3 Chapin Court, Williamstown, Mass.
Warner, D. A., 18 Charles St., New York City.
Watson, W. N., School of Commerce, Utah State College, Logan, Utah.
Watt, R. W., R.F.D. 3, Plainfield, N.J.
White, E. L., 1670 Longfellow St., Arlington, Va.
Whitten, W. M., 1100 Delaware Ave., Wilmington, Del.
Wiedeman, H. C., 122 Greenway Blvd., West Falls Church, Va.
Williams, W., 3030 Euclid Ave., Cleveland, Ohio.
Williamson, M. L., 207 Kenan Hall, Chapel Hill, N.C.
Williamson, W. R., 3400 Fairhill Drive, Anacostia, D.C.
Wilmot, W. V., Jr., 311 Sterling Hall, University of Wisconsin, Madison, Wis.
Winslow, R. S., Chapel Hill, N.C.
Wintersea, C., 8801 Jeffries Ave., Cleveland, Ohio.
Wolfard, J. A., Whitman College, Walla Walla, Wash.
Young, B. O., 317 N. Thomas St., Arlington, Va.

The American Council of Learned Societies is sponsoring a program of intensive instruction in languages designed to provide opportunity for Americans trained in the usual university disciplines—history, economics, engineering, journalism, the physical and mathematical sciences, etc.—to add to their competences control of one of the unusual languages likely to be necessary in the war effort. Those interested can learn more of the program by writing to The Intensive Language Program, American Council of Learned Societies, 1219 Sixteenth Street, N.W., Washington, D.C.

The Science-Technology group of the national Special Libraries Association has undertaken to compile, for the benefit of users of the Russian scientific and technical periodicals, current or otherwise, a complete list of the holdings of such periodicals in all the libraries of the United States and Canada, as far as possible, whether personal, institutional or industrial. Owners and librarians in charge of such materials are asked to send in on 3 by 5 inch slips the following information: (1) title of periodical, transliterated according to A.L.A. or Library of Congress rules; (2) holdings in volume numbers and years exact to month and issue number; (3) is it received currently? (4) can the periodicals be borrowed? photostatted? microfilmed? (5) subject or subjects to which this periodical is devoted; (6) former titles, if any, in chronological order and on the other side of the slip. This information should be sent to Miss Nathalie D. Frank, 512 West 162nd Street, New York, New York.

Jessica B. Peixotto, professor emeritus at the University of California, died in October.

Appointments and Resignations

J. Russell Andrus, associate professor of economics at the University of Redlands, is on leave of absence and is now working as economic research analyst for the Far Eastern Section of the Bureau of Foreign and Domestic Commerce, Washington, D.C.

James W. Angell, professor of economics at Columbia University, was granted a leave of absence during the second semester of 1941-1942 to accept an appointment in Washington, D.C.

Roy Ashmen, instructor in accounting at Louisiana State University, is now a lieutenant in the Naval Reserve and is stationed at Jacksonville, Florida.

Rollin S. Atwood of the University of Florida has been granted a leave of absence to become economic analyst attached to the United States Embassy at Quito, Ecuador.

William Bade, a New York University-Tax Foundation Fellow, has resigned to accept a position with the War Production Board in Washington, D.C.

Marvin A. Bacon of the University of Michigan is now in the Rent Division of the Office of Price Administration.

Theodore N. Beckman of Ohio State University is now serving on a part-time basis as chief consultant of the Division of Civilian Supply, War Production Board.

M. M. Bober has been granted a leave of absence from Lawrence College to join the staff of the Office of Price Administration, Washington, D.C.

Gladys Boone has been appointed chairman of the new Division of Social Studies at Sweet Briar College, which combines the department of economics and sociology and the department of history and government.

Daniel Borth, professor of accounting in the College of Commerce and auditor of Louisiana State University, joined the Army in February with the rank of Major in the Quartermaster Corps and is now stationed in Washington, D.C.

D. O. Bowman, instructor at the University of Michigan, has been given leave for the duration of the emergency to work in the Chicago office of the Office of Price Administration.

Benjamin F. Brooks, professor of economics at Butler University, has been granted leave of absence to become a liaison officer with the Civil Service Commission in Washington, D.C.

R. P. Brooks, dean of the College of Business Administration, University of Georgia, is regional price executive of the Office of Price Administration in the Atlantic office.

J. Douglas Brown, who has returned to Princeton University from the War Production Board, is serving as a consultant to the War Department on man-power policy.

Roy J. Bullock has been promoted to associate professor of political economy at the Johns Hopkins University.

Malcolm Burnside has been given a leave of absence by the American Telephone and Telegraph Company and has entered active service as a Naval Reserve officer.

Henry Chen, junior assistant in the department of economics of the School of Commerce, New York University, has been appointed a representative of the Ministry of Economics of the Republic of China.

Morris Chertkov has received an appointment in the legal division of the War Production Board, at Washington, D.C., and is on leave from the University of Washington.

Howard E. Cooper has been promoted to associate professor of political economy at the Johns Hopkins University.

R. S. Cornish, formerly of Waynesburg College, has joined the staff of the College of Business Administration at the University of Georgia as an associate professor of economics.

Virgil Cover has returned to Washington from Dallas, where he was regional business consultant for the Department of Commerce, to assume the position of transportation economist in the Bureau of Foreign and Domestic Commerce.

Earl C. Crockett, professor of economics at the University of Colorado, has been granted a leave of absence to work with the War Production Board, Washington, D.C.

Walter A. Chudnowsky has been appointed an instructor in economics at Columbia University after having served as a research associate with the National Bureau of Economic Research during the past year. He is also serving as a consultant in the Division of Research of the Office of Price Administration.

Amando M. Dalissay is now a junior business economist with the Office of Price Administration.

Paul T. David has resigned as associate director for research and chief economist of the American Youth Commission of the American Council on Education to accept a position as a chief statistical analyst in the Fiscal Division of the United States Bureau of the Budget. He was formerly secretary of the President's Advisory Committee on Education.

Leonard A. Drake, who has been in government service for some time, carrying on economic research work in other agencies, has been appointed regional business consultant of the Department of Commerce, and is stationed at Philadelphia.

William E. Dunkman is on leave from the University of Rochester while working in the Division of Civilian Supply of the War Production Board.

Robert P. Eastwood has been promoted from instructor to assistant professor of business statistics in the Columbia University School of Business.

Clarence W. Efroymson, associate professor of economics at Butler University, has been

granted leave of absence while working with the Office of Price Administration, Washington, D.C.

Wilford J. Eiteman of Duke University is on leave of absence and is at present in the Office of Price Administration in the Nonferrous Materials Division.

George Heberton Evans, Jr., has been promoted to professor of political economy at the Johns Hopkins University.

J. Wesley Fly of the University of Florida, who held an officer's commission in the Reserve Corps, has been granted a leave of absence upon being called into active service.

John L. Fulmer, associate professor of rural economics at the University of Virginia, has been given a leave of absence and is now a Captain in the Army.

Mary Gilson of the University of Chicago gave a course in industrial relations at Wellesley College during the second semester of 1941-1942.

Henry Glass, a former junior assistant in the department of economics of the School of Commerce, New York University, is now with the Office of Price Administration, Washington, D.C.

Joseph Gordon, formerly assistant manager of the research department of Merrill, Lynch, Pierce, Fenner and Beane, New York, is now chief of the Import Priorities Section of the War Production Board.

Robert E. Graham, Jr., acting associate professor of rural economics at the University of Virginia, was called into active service in February and is now a Lieutenant at Fort McClellan, Alabama.

William Haber, professor of economics at the University of Michigan, was given leave for the second semester to assist the Director of the Budget in Washington, in coördinating various pension plans.

George G. Hagedorn of the Lehman Corporation joined the Army in March.

Everett E. Hagen of Michigan State College is now serving with the National Resources Planning Board, Washington, D.C.

James K. Hall of the University of Washington has been appointed price executive with the Seattle office of the Office of Price Administration and will be on leave until September.

Earl J. Hamilton of Duke University will spend four months, June through September, in the archives of Colombia, Guatemala, and Mexico, gathering material for a book on the economic background of the Monroe Doctrine.

Tom Hancock, instructor in economics at the University of Kansas, entered the Army in February.

Robert W. Harbeson of Rutgers University has been appointed economic consultant to the New Jersey Rationing Administration.

David Harrison of the department of economics of Ohio State University is serving as senior economist in the Steel Section of the Office of Price Administration.

Everett D. Hawkins, associate professor of economics, has been granted leave of absence from Mount Holyoke College extending through 1942-43, in order to accept a special assignment with the Office of Price Administration.

Carl H. Henrikson, Jr., regional business consultant of the Department of Commerce at Philadelphia, has been transferred to New York, where he is at the Department's regional office, 500 Fifth Avenue.

William W. Hewett, professor of economics at the University of Cincinnati, was granted a leave from April 20 to June 30, to accept a special assignment with the Tax Research Division of the Treasury Department.

Frederick R. Hoisington, Jr., of the International Telephone and Telegraph Corporation, has been appointed principal economist with the Alien Property Division of the Department of Justice.

Edgar M. Hoover, Jr., associate professor of economics at the University of Michigan, is on leave of absence and will work through the summer in the Fuels Division of the Office of Price Administration in Washington.

M. H. Hornbeak, formerly associate professor of business administration at Louisiana State University and lately vice president of the Louisiana National Bank, Baton Rouge, entered the army in March as a Lieutenant in the Quartermaster Corps, stationed in Washington.

Clifford James, professor of economics, is on leave of absence from Ohio State University to serve as regional price executive in the Office of Price Administration, in Cleveland.

Lloyd Johnson has been appointed instructor in accounting at the University of Florida.

Richard B. Johnson, assistant professor of business and economics at the University of Arkansas, has resigned to assume the position of regional business consultant of the Department of Commerce, stationed at Dallas. Before going to Dallas, he spent considerable time in Washington, becoming acquainted with the work of a number of war agencies.

J. Maynard Keech of Duke University is on leave and is at present with the Civil Service Commission.

Marshall D. Ketchum, recently advanced from assistant to associate professor of economics at the College of Commerce, University of Kentucky, will be professorial lecturer in finance in the School of Business, University of Chicago, during the summer quarter of 1942.

Will F. Kissick, chief economist of the Coöperative Business Research Station established jointly by the University of Minnesota and the Department of Commerce at Minneapolis, has been transferred to the regional office in Minneapolis as acting regional business consultant.

Harold D. Koontz, assistant professor of economics at Colgate University, has been named economic consultant to the chief of the Machinery and Equipment Section of the Office of Price Administration.

Mabel S. Lewis has taken a position with the Post-War Division of the Bureau of Labor Statistics, Washington, D.C.

Shaw Livermore, professor of economics, has been on leave from the University of Buffalo since April, 1941, to serve in the Priorities Division of the War Production Board.

Clarence D. Long has been promoted to associate professor of economics at Wesleyan University and granted a renewal of his leave of absence. During 1941-42, he has been preparing a book on the history of unemployment in the United States, with the support of a Guggenheim Fellowship and a membership in the Institute for Advanced Study at Princeton. He will continue this work during 1942-43 under the same auspices.

Hastings Lyon is retiring from the Columbia University School of Business at the end of the 1941-42 academic year.

Donald H. Mackenzie, associate professor at the University of Washington, has been acting as an examiner for the National War Labor Board in matters affecting waterfront labor relations in the Puget Sound area.

Lewis F. Manly has been named acting chairman of the department of economics and sociology at Tufts College.

Donald Marsh, instructor in economics in Barnard College, Columbia University, will teach introductory economics in the new summer session for the acceleration of the college course for women undergraduates.

Boyce F. Martin, dean of the School of Business Administration at Emory University, has resigned to take a position with the Louisville Cement Company.

Carl Marzani, senior assistant and part-time instructor in the department of economics of the School of Commerce, New York University, has resigned to accept a position with the Coördinator of Information in Washington, D.C.

Walter J. Matherly, dean of the College of Business Administration, University of Florida, has been appointed a director of the Jacksonville branch of the Federal Reserve Bank of Atlanta.

Orville J. McDiarmid, assistant professor of economics and business administration at the College of William and Mary, is on leave for the second semester of 1941-42 and is

now employed as economist in the Post-War Division of the Bureau of Labor Statistics.

F. Eugene Melder, associate professor of economics and sociology at Clark University, has been awarded a grant-in-aid by the Social Science Research Council for research on the impact of interstate trade barriers.

B. J. Merriam, instructor in economics at the University of Kansas, resigned at the end of the first semester of 1941-42 to accept employment with the Transportation Board, Washington, D.C.

Nicholas Mirkovich, formerly at the department of economics, University of California, resigned from the staff of the International Secretariat of the Institute of Pacific Relations to join the Yugoslav Government in London as chief of the newly created Office of Reconstruction and Economic Affairs, and also to act as deputy chairman of the Economic Division of the Eastern and Central European Planning Board, a joint planning body of the governments of Poland, Czechoslovakia, Yugoslavia and Greece.

Robert C. Mizell, director of university development at Emory University, has been appointed acting dean of the School of Business Administration.

Jacob L. Mosak of the University of Chicago has been given a leave of absence and is now senior economist in the Office of Price Administration.

Peter F. Palmer, instructor in economics at the University of Kansas, resigned at the end of the first semester of 1941-42 to accept an appointment as assistant professor of economics at Marquette University.

Harlow S. Person is retiring from the School of Business Administration of Columbia University in June.

Charles F. Phillips, professor of economics at Colgate University, has been named associate price executive in the Rubber Division of the Office of Price Administration. He was formerly a marketing consultant for the Office.

Earl Powers, who held an officer's commission in the Reserve Corps, has been granted a leave of absence by the University of Florida, upon being called to active duty.

L. B. Raisty, head of the department of public finance at the University of Georgia, is in charge of the administration of installment buying regulations at the Federal Reserve Bank of Atlanta.

Joseph S. Ransmeier, instructor in economics at Vanderbilt University, is now working in Washington at the Office of Price Administration.

Lloyd G. Reynolds has been promoted to associate professor of political economy at the Johns Hopkins University.

J. H. Richardson, formerly visiting professor at the University of Toronto, has been appointed economic adviser to the Governor of Bermuda.

B. R. Risinger, instructor in business administration and assistant to the dean of the College of Commerce at Louisiana State University, was made purchasing agent of the University in April.

W. R. Roane, instructor in accounting and assistant auditor of Louisiana State University, has been named auditor of the University.

Myron Rosenfield of the New York State Division of State Planning is now employed as an associate economist in the Copper and Brass Section of the Office of Price Administration.

Raymond J. Saulnier, professor of economics at Barnard College, taught monetary economics at Columbia University during the last part of the second semester of 1941-42.

Franklin Scheider, instructor at the College of Business Administration, University of Georgia, is now a reserve officer at Fort Benning.

Melvin J. Segal has been granted a leave of absence from Southern Illinois Normal University to accept a position as chief economist with the Minimum Wage Board of the Government of Puerto Rico.

William H. Shannon, associate professor of accounting at the University of Kansas, has been granted a leave of absence while serving in the Navy, where he holds the rank of Lieutenant in the Supply Corps.

I. Leo Sharfman, professor of economics at the University of Michigan, has been appointed an associate member of the War Labor Board.

Lloyd L. Shaulis, chairman of the department of economics and sociology at Tufts College, has been on leave of absence since February, and is now with the Office of Price Administration.

Edward C. Simmons, who has held a post-doctoral fellowship of the Social Science Research Council, has transferred to the Office of Price Administration in Washington, D.C.

Isidore Singer, formerly of the College of the City of New York and Brooklyn College, has been appointed junior assistant in the department of economics of the School of Commerce, New York University.

Arnold L. Skinner, formerly stationed at the regional office of the Bureau of Foreign and Domestic Commerce in Minneapolis, has joined the Naval Reserve.

R. Elberton Smith, formerly of the department of economics at the University of Denver, is now an economist in the Research and Analysis Section of the War Production Board.

Robert S. Smith of Duke University has received a Guggenheim award and will spend the summer in Mexico, in research on economic history.

Joseph J. Spengler has resumed his teaching duties at Duke University after being on sabbatical leave in the first semester.

Henry W. Speigel of Duquesne University will teach courses in war economics and agricultural policy in the summer session at Michigan State College.

John D. Sumner, professor of economics, has been on leave from the University of Buffalo since June, 1941, and is serving as price executive in the Office of Price Administration.

Glenn W. Sutton of the University of Georgia has been commissioned in the Navy and is located in Rhode Island.

W. A. Tolman is on leave from the University of Kentucky and has accepted a position as regional price economist in the Bureau of Labor Statistics in charge of the Atlanta regional office.

Lawrence W. Towle of Lawrence College was acting professor of economics at the University of Florida for the second semester of 1941-42.

Malcolm D. Taylor has been granted a leave of absence from the University of North Carolina to accept a position with the Civil Service Commission.

Lorie Tarshis, assistant professor of economics at Tufts College, has accepted a position with the Board of Economic Warfare.

Mary Van Brunt taught introductory economics at Barnard College during the second semester of 1941-42.

Charles J. Walsh, assistant professor of economics at the School of Business, Fordham University, has been granted a leave of absence in order to accept a position as business specialist with the Office of Price Administration, Washington, D.C.

Edward C. Welsh is on leave of absence from the department of economics of Ohio State University to serve as principal economist in the Office of Price Administration in Cleveland.

Robert L. Whaley, formerly commercial agent for the Department of Commerce stationed at Detroit, has assumed the position of regional business consultant at St. Louis, following an intensive period of training in Washington, to acquaint him with the work of the federal agencies in St. Louis.

Bayard O. Wheeler, lecturer at the University of Washington, is doing part-time research in the Seattle office of the Bureau of Labor Statistics and in the Seattle office of the Office of Price Administration, where he will be on a full-time basis after June 15.

Joseph A. Yager, formerly teaching fellow at the University of Michigan, is working with the National Resources Planning Board in Washington.

E. L. Zingler of Louisiana State University is on leave until September with the National Resources Planning Board in Dallas.

BOOK REVIEWS AND TITLES OF NEW BOOKS

Economic Theory; General Works

Economic History

Economic Systems; National Economies

Statistics; Economic Mathematics; Accounting

Business Cycles and Fluctuations

Public Finance; Fiscal Policy; Taxation

Money and Banking; Short-Term Credit

International Trade, Finance and Economic Policy

ARTHUR TWINING HADLEY

Fifth President of the American Economic Association, 1898-99

Arthur Twining Hadley, only child of James Hadley, professor of Greek at Yale, was born in New Haven April 23, 1865; died on board the S.S. *Empress of Australia* in Kobe harbor, Japan, March 6, 1930. He prepared for college at Hopkins Grammar School in New Haven, and entered Yale in 1872, from which he was graduated with highest honors in 1876. He continued with graduate study in political science at Yale, and afterward at the University of Berlin, where he attended the lectures of Adolf Wagner, and where he obtained his Ph.D. degree. He became lecturer at Yale in railroad administration, 1883-86, professor of political science, 1886-91, professor of political economy, 1891-99, and dean of the graduate school, 1892-95, and served as president of the University, 1899-1921, when he retired, emeritus.

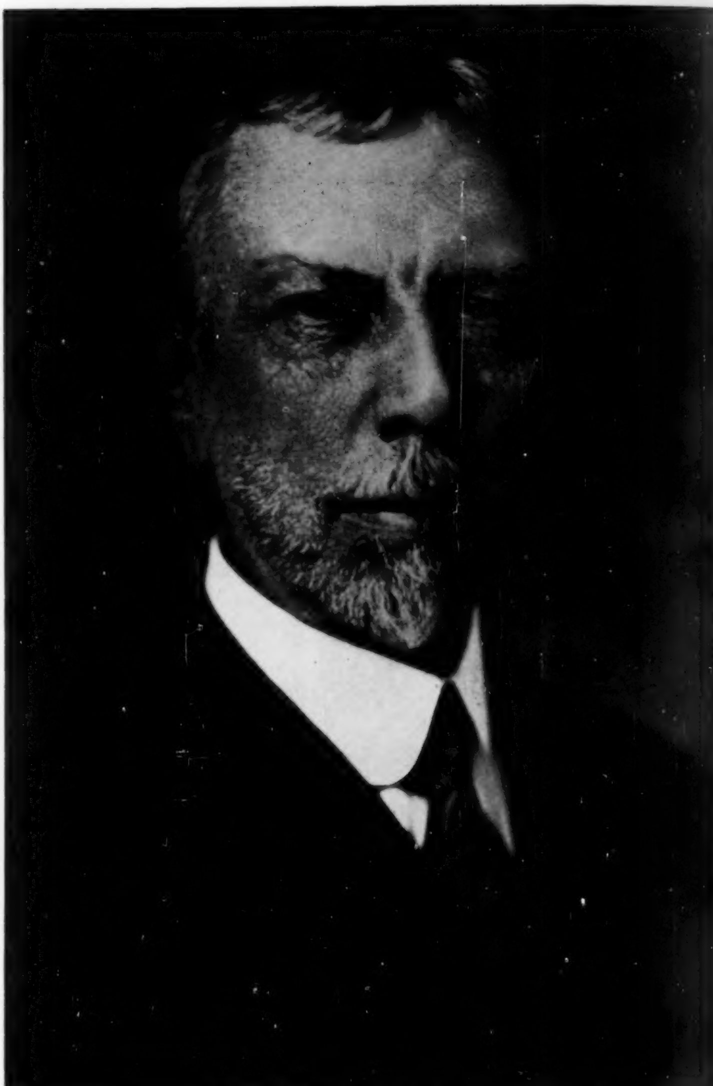
In 1907-08 President Hadley was Roosevelt professor of American history at the University of Berlin, and in 1914 lecturer at Oxford University. He was the first American lecturer on the Watson Foundation at London, Cambridge, Oxford, and other English universities in 1922.

From 1885 to 1887 Dr. Hadley served as Commissioner of Labor Statistics in Connecticut, in which capacity he wrote two able volumes of official reports. He was associate editor of the *Railroad Gazette* of New York from 1887 to 1889, and chairman of the Railroad Securities Commission, appointed by President Taft in 1910.

Dr. Hadley published two significant books in the field of economics: *Railroad Transportation, Its History and Laws* (1885), and *Economics—An Account of the Relations Between Private Property and Public Welfare* (1896).

A minute prepared by a committee consisting of Irving Fisher, Charles L. Raper, and E. R. A. Seligman, giving a brief account of Arthur Twining Hadley's biography and place in American economics, was published in the June, 1930, number of the *American Economic Review*, pages 364-68.

Number 5 of a series of photographs of past presidents of the Association.



A T Hadley